AMERICAN MUSEUM,

AND

REPOSITORY OF ARTS AND SCIENCES,

AS CONNECTED WITH

DOMESTIC MANUFACTURES

AND

NATIONAL INDUSTRY.

ALSO, A

LIST OF ALL THE PATENTS

GRANTED BY THE UNITED STATES,

UP TO THE END OF THE YEAR 1821.

WITH

A LIST OF ALL THE BOOKS

THAT HAVE BEEN DEPOSITED IN THE DEPARTMENT OF STATE,

FOR SECURING THEIR COPY RIGHT

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WASHINGTON:

PRINTED BY SETH ELLIOT: PUBLISHED BY JOSEPH MILLIGAN, GEORGETOWN, D. C. AND SOLD BY P. THOMPSON, PENNSYLVANIA AVENUE, WASHINGTON.

1822.

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AMERICAN MUSEUM,

AND

REPOSITORY OF ARTS AND SCIENCES,

AS CONNECTED WITH DOMESTIC MANUFACTURES AND

NATIONAL INDUSTRY.

PART I.—VOLUME I.

WASHINGTON:
PRINTED BY SETH ELLIOT, AND PUBLISHED BY JOSEPH MILLIGAN,
GEORGETOWN.
1822.

District of Columbia—To wit:

BE IT REMEMBERED. That on the 21st day of January, in the year of our Lord, one thousand eight hundred and twenty-two and of the independence of the United States of America the forty-sixth, SETH ELLIOT, of the said District, hath deposited in this office the title of a Book, the right whereof he claims as Proprietor, in the words following, to wit:

"American Museum, and Repository of Arts and Sciences, as connected with Domestic Manufactures and National Industry. Part I.—Volume I."

In conformity to the Act of the Congress of the United States, entitled "An Act, for the encouragement of Learning, by securing the copies of Maps, Charts, and Books, to the Authors and Proprietors of such copies during the times therein mentioned;" and also to the Act, entitled "An Act supplementary to an act, entitled "An Act for the encouragement of Learning, by securing the copies of Maps, Charts, and Books, to the Authors and Proprietors of such copies during the times therein mentioned, and extending the benefit thereof, to the arts of designing, engraving and etching historical and other Prints."

In testimony whereof, I have hereunto set my hand, and affixed the public seal of my office the day and year aforesaid.

EDMUND I. LEE,

Clerk of the District of Columbia.

AMERICAN MUSEUM,

AND

REPOSITORY OF ARTS, AND SCIENCES, &c. &c.

PREFACE.

In the present state of the country, when foreign commerce no longer yields its uncertain profits; and when economy, the encouragement of domestic manufactures, and the developement of our own resources, appear to be the only sure means of relieving the distresses and increasing the wealth of the nation; a work, embracing these objects, cannot fail, we think, of being very acceptable to every friend of the prosperity of the United States.

In undertaking this publication, our design is to give an account of all the important discoveries in the Arts, Sciences, and Manufactures, that have been lately made in this, or in any other country; but particularly those which have been patented in the United States. To effect this purpose, a correct copy of the different specifications will be given, (by permission of the inventors) with the drawings and references to each, when requisite.

In order to make the work as cheap as possible, and to bring it within the reach of every condition of life, it will be printed on a small, but neat and distinct type—charged at a moderate price and be published as often as materials can be obtained

As the work will be peculiarly well adapted for patentees and inventors, to make known their discoveries and improvements, where plates or engravings are necessary to convey clear ideas of their inventions, they will be charged a moderate sum for each plate, to defray the expense of engraving, &c.

The *American Museum* will also have a department for all subjects on Natural Philosophy, and Polite Literature; such as Criticism, Original Essays, Poetry, and whatever is calculated to benefit or innocently amuse mankind.

As a preceding and necessary part of this Work, an Alphabetical list of the Patents granted by the United States for the last *thirty years*, has been already printed, and are for sale at the office of the *American Museum*, Pennsylvania Avenue, near the Old Theatre.

JETHRO WOOD'S NEW AND USEFUL PLOUGH.

Specification of Jethro Wood's new and useful Invention and Improvement in the construction of Ploughs for cultivating and improving Land.

In the first place the said Jethro Wood claims an exclusive privilege, for constructing the part of the plough, heretofore, and to this day, generally called the mould-board, in the manner herein after mentioned. This mould-board may be turned a plano-culvilinear figure, not defined or described in any of the elementary books of geometry or mathematics, but an idea may be conceived of it thus:—

The land side of the plough, measuring from the point of the mould-board, is two feet and two inches long. It has a straight-lined surface, from four to five and one half inches wide, and half an inch thick. Its more particular description will be herein afterwards given; it is sufficient to observe here, that of the twenty-six inches of length on the land side, eighteen inches belong to the part of the plough, strictly called the land-side, &c. eight inches to the mould-board. The part of the mould-board comprehended by this space of eight inches, is very important, affording weight, and strength, and substance to the plough, enabling it the better to sustain the cutting edge, for separating and elevating the said sward, and likewise the standard for connecting the mould-board with the beam as will herein after be described more at large.

The figure of the mould-board, as observed from the furrow side, is a sort of irregular pentagon, or five sided plane, though curved and inclined in a peculiar

manner. Its two lower sides touch the ground, or are intended to do so, while the three other sides center into the composition of the oblique, or slanting mould-board, overhanging behind, vertical midway, and projecting forward. The angle of the mould-board, as it departs from the foremost point of, or at the land side, is about forty-two degrees, and the length of it, or in other words, of the first side is eleven inches. The line of the next, or the second side, is nearly, but not exactly, parallel with the before-mentioned right lined land side, for it widens or diverges from the angle at which the first and second sides point towards its posterior, or hindermost point, as much as one inch. Hence the distance from the hindermost point of the mould-board, at the angle of the second and third sides, directly across to the land side, is one inch more than it is from the angle of the first and second sides, directly across. The length of this, the second side, is eight inches; the next side, or what is here denominated the third side, leaves the ground or furrow in a slanting direction backward, and with an overhanging curve, exceeding the perpendicular outwards from three to six inches, according to the size of the plough. The length of this third side is fourteen inches and one half:—the fourth side of this mould-board is horizontal, or nearly so, extending from the uppermost point of the third side to the forepart, or pitch, eighteen inches:—the fifth, or cast side, descends or slopes from the last mentioned mark, spot or pitch, to the place of beginning, at the low and forepoint of the mould-board, where it joins the land side. Its length is thirteen inches.

Besides these properties and proportions of his mould-board, the said Jethro Wood now explains other properties which it possesses, and by which it may be, and is distinguished from every other invented thing. The peculiar curve has been compared to that of the screw auger; and it has been likened to the prow of a ship. Neither of these similitudes convey the fair and proper notion of the invention.

The mould-boards of which the said Jethro Wood claims as his own, and which is the result of profound reflection, and of numberless experiments, is a sort of plano-curvilinear surface, as herein before stated, having the following bearings and relations: A right line drawn by a chalked string or cord, or by a straight rule, diagonally or obliquely, upwards and backwards, from a point two inches and a half above the tip or extremity of the mould-board, to the angle where the third and fourth sides of the mould-board join, touches the surface of the whole distance in an even and uniform application, and leaves no sinking depression, hole, cavity, rising lump, or protuberance, in any part of the distance.

So, at a distance half way between the diagonal line just described, and the angle between the first and second sides, a line drawn parallel to the diagonal line already mentioned, will receive the chalked string or cord, or the straight rule, as on an uniform or even surface, without the smallest bend, sinuosity or bunch, whereby earth might adhere to the mould-board and impede the motion and progress of the plough, under, through, and along the sail.

In like manner, if a point be taken one inch behind the angle connecting the second and third sides, and a perpendicular be raised with it, that perpendicular will coincide with the vertical portion of the mould-board in that place; or, in other words, if a plumb line be let fall so as to reach a point one inch behind the last mentioned angle then such a plumb line will hang parallel with the mould-board the whole way, the line of the mould-board there, neither projecting nor receding, but being both a right line and a perpendicular line.

Moreover, if a right line be drawn from a point on the just described perpendicular, an inch, or thereabouts, above the upper margin of the fourth side, and from the point to which the perpendicular, if continued, would reach; f, (the said Jethro Wood repeats,) a right line be drawn downward and forward, not exactly parallel to the diagonal herein already described, but so diverging from the same, that it is one inch more distant, or further apart, at its termination on the fifth side of the mould-board, then at its origin or place of beginning; such line so beginning, continued, and ended, is a right line parallel to the mould-board along its whole course and direction, and the space over which it passes, has no inequality, hill or hollow, thereabout.

Furthermore, an additional property of his mould-board, is, that if it be measured and proved various ways, vertically and obliqely, by the saw in fashioning it, and by the rule in meting it, and by the chalk-line in determining it, the capital and distinguishing character of right lines existing on, over and along the peculiar curve which his mould-board describes, is always and inseparably present. This grand and discriminating feature of his mould-board, he considers as the utmost importance. He therefore craves the aid and elucidation of his drawings and of his model, in their totality and in their several parts, to render plain and sure whatever there may be from, the abstruse and recondite nature of the subject, uncertain or dubious in the language of his specification.

In the second place, the said Jethro Wood claims an exclusive right and privilege in the construction of a standard of cast iron, like the rest of the work already described, for connecting the mould-board

with the beam. This standard is stout, strong, and rises from the fore and upper part of the mould-board, being cast with it, and being a projection or continuation of the same, from where the fourth and fifth sides meet. Its figure, strength and arrangement are such, as best to secure the connection, and to enable the standard thus associated with the beam, to bear the pull, tug, and brunt of service, by a screw-bolt and nut, properly adjusted, above the top of the standard, and acting along its side, assisted, if need require, by a wedge, for tightening and loosening. The beam may be raised and lowered, and the mould-board with its cutting edge, enabled to make a furrow of greater or smaller depth, as the ploughman may desire; and a latch and key fixed to the beam, and capable of being turned into notches, grooves, or depressions, on one edge or narrow side of the standard, serves to keep the beam from settling or descending. By means of these screw-bolts, wedges, latches, and keys, with their appropriate notches, teeth and joggles, the plough may be deepened or shallowed most exactly.

In the third place, the said Jethro Wood claims an exclusive privilege in the inventions and improvements made by him in the construction of the cutting edge of the mould-board, or what may be called in plain language, the ploughshare. The cutting edge consists of cast iron, as do the mould-board and land side themselves. It is about twelve inches and one half long, four inches and one half of one inch broad, and in the thickest part, three quarters of an inch thick. It is so fashioned and cast, that it fits snugly and nicely into a corresponding excavation or depression at the low and fore edge of the mould-board, along the side herein before termed the first side When properly adapted, the cutting edge seems, by its uniformity of surface and evenness of connection, to be an elongation of the mould-board, or as it were, an extension or continuation of the same. To give the cutting edge firm coherence and connection, it is secured to the mould-board, by two or more knobs, pins, or heads, in the inner and higher sides, which are received in one or more holes in the fore and lower part of the mould-boards.

By this mechanism the edge is lapped on and kept fast and true, without the employment of screws. That the cutting edge may be the more securely and immoveably kept in its place, it has a groove or ship-lap of one inch in length, below, or at its under side, near the angle between the first and second sides, for the purpose of holding it; and for the further accomplishment of the same object, another groove or ship-lap, stouter and stronger than the preceding, is also cast in the iron, at or near the point of the mould-board, so as to cover, incase, and protect it effectually, on the upper and lower sides, but not on the land side.

After the cutting-edge is thus adapted and adjusted to the mould-board by means of the indentation, pins, knobs, ship laps, and fastenings, it is fixed to its place and prevented from stepping back, or working off, by wedges or pins of wood or other material, driven into the holes, from the inner and under side, and forced tight home by a hammer.

In the fourth place, the said Jethro Wood claims the exclusive right of securing the handles of his plough to the mould-board and land-side of the plough, by means of notches, ears, loops or holders, cast with the mould-board and land-side respectively; and serving to receive and contain the handles, without the use of nuts and screws. For this purpose one or more ears or loops, or one or more pairs of notches or holders, one cast on the inner side of the mould-board and land-side, toward their hinder or back parts, or near their after-margins, for the reception of the handles of the plough. And these, when duly entered and fitted, are wedged in, instead of being fastened by screws.

In the fifth place, the said Jethro Wood claims an exclusive right to his invention and improvement in the mode of fiting, adapting, and adjusting the cast-iron land-side to the cast-iron mould-board. Their junction is after the manner of tenon and mortice: the tenon being at the fore end of the land-side, and the mortice being at the inside of the mould-board and near its point. The tenon and mortice are joggled, or dove-tailed together in the casting operation, so as to make them hold fast. The fore end of the tenon is additionally secured by a cast projection from the inside of the mould-board, formed for its reception: and if any other tightening or bracing should be requisite, a wooden wedge, well driven in, will bind every part effectually. And all this accomplished without the assistance or instrumentality of screws.

The said inventor and petitioner, wishes it to be understood, that the principle metallic material of his plough, is cast iron. He has very little use for wrought iron; and by adapting the former to the extent he has done, and by discontinuing the latter, he is enabled to make the plough stronger and better, as well as more lasting and cheap.

He also claims, and hereby asserts the right of varying the dimensions and proportions of his plough, and of its several sections and parts, in the relation of somewhat more and somewhat less of length, breadth, thickness, and composition, according to his judgment or fancy, so that all the while he adheres to his principle and departs not from it.

Regarding each and every of the matters

submitted, as very conducive to the reputation and emolument of the said Jethro Wood, he relies confidently upon a benign and favourable construction of his petition and specification by the constituted authorities of his country.

See Plate, No. 1.—Illustrations and explanations of the above invention and improvement:—

A A A Plough entire, shewing all the parts in connection.

1 The Mould-Board.
2 The Standard.
3 The Cutting Edge, with its point.
4 The Beam.
5 5 The Handles.
6 The Cutter.
7 The Cleves.
8 The Screw connected with the Standard, for raising and lowering the beam.

a b The diagonal lines drawn from a point two and a half inch over and behind the point of the mould-board to the angle where the third and fourth sides meet, touching all the way.

c d The line drawn paralel to the just-mentioned diagonal, midway between the said diagonal, and the angle between the first and second sides, touching all the way.

e f The perpendicular raised upon a point an inch behind the angle connecting the second and third sides, touching all the way.

e g The line drawn from the last-mentioned a little above the margin of the mould-board, downwards and forwards diverging an inch from its paralelism, with the first described diagonal, as it advances to the edge of the fifth side, and touching all the way.

Patented, Sept. 1, 1819.

PATENTED RECIPES.

Method of Preparing and Using Rowson's Anti-bilious and Stomach Bitters.

1 oz. Radix Serpentar Virginia,
1 oz. Rad. Rhei Americanus,
1 oz. Rad. Genseng Amer.
1 oz. Rad. Cohost Amer.
1 oz. Boua Juniperi,
1 oz. Cortex Macis,
2 oz. Santalum Rub
½ oz. Semen Santamoum,
½ oz. Quassi Lignum,
1 oz. Gum Myrrh.

Misse. fiat. pulv. and divide into twelve equal parts. To prepare for use—put one of those parts so divided, into one quart of wine, or any kind of spirits. *Dose*—from one to two table spoonfuls, taken two or three times a day, half an hour before a meal. *Patented April* 4, 1803.

Recipe for Composing and Making Lee's New-London Bilious Pills.

Pulv. Aloes Succotine	12 ounces,
Pulv. Gum Scammony opt.	6 do.
Calomel ppt.	5 do.
Pulv. Gutto Gamba,	4 do.
Pulv. Jalap,	3 do.
Pulv. Sapo Castile,	1 do.
Syrup Buckthorn,	1 do.
Mucelage Gum Arabac.	7 do.

Misse fiat. Massa pillule. When this is well incorporated, take 2½ drachms, and divide into 24 pills.

Patented April 30, 1796.

Recipe for the Preparation and Composition of Bilious Pills, invented by Sam. Lee, jun. Windham, Con.

3 lb. Gambogia,	½ lb. Sal Nitre,
2 lb. Aloes Suc.	½ lb. Extract of Cow
1 lb. Sapo Durus,	Parsnip.

Beat them into a mass, with a sufficient quantity of spt. vini rut.

The General Uses, viz.—For too large a quantity of bile in the stomach, pain in the head, stomach, bowels, gripes and costructions: and are a sovereign help for the gravel, scurvy, cholic, dropsy, &c. They restore the loss of appetite after a debauch by eating and drinking. They safely and easily purge the stomach without pain or griping, &c. *Patented May* 24, 1810.

Jesse Wheaton's Mode of making Jaundice Bitters.

Take of Red Saunders	1 dram,
Orange Peel	1 do.
Rhubarb	1 do.
Augustura Bark	1 do.
Hemlock Bark	1 do.
Cinnamon	30 grains,
Gum Guiacum	12 do.
Hira Picra	12 do.
Tartar Emetic.	12 do.

Pulverize and mix them well together, and put them into a pint and a half of any kind of spirit, for use. The proper dose for an adult is from one to two table spoonfuls in the morning, on an empty stomach,

and an hour before dinner. These bitters will effectually remove jaundice and bilious obstructions from the stomach and bowels; and restore the habit to strength and vigor. As almost all the diseases which attack the human constitution, have some connection with irregularities of the bile, which irregularities the Jaundice Bitters will correct. It may be said, without particularizing, that this medicine is nearly universal in its use and efficacy. *Patented Jan.* 17, 1801.

Benjamin Du Val's Anti-bilious Pills.

Take of cream of tartar and succotine aloes, of each one ounce, gum gamboge, and calomel, of each two ounces, pill ex duobus four ounces. Having powdered the four first ingredients very fine, mix them well together with the pill ex duobus, and bring the mass to a proper consistence with a spirituous extract of a root called may-apple, and make it into pills of two grains each.

Asa Johnson's Fever Drink.

Take an ounce of the running vine, known in the Eastern States, by the name of *Wild Mercury*, cut small, and infuse it in a quart of water for twelve hours. Into this, drop one hundred drops of the essence of the Mountain Tea, (prepared as hereinafter described,) and half an ounce of good aqua fortis. This is the composition of one quart of Fever Drink.—The dose for an adult is not to exceed a quarter of an ounce, where the constitution is good, and a less quantity where debilitated.

The essence of the Mountain Tea, above mentioned, is thus prepared. Take any quantity of the herb usually known by the name of Mountain Tea, or Winter Green, and put it with water into an alembic or still. The oil comes over with some water, but the oil sinks. This oil is then dropped into pure alcohol, or spirit of wine, so as to saturate the alcohol with the oil; which forms the essence above described.

Patented Jan. 11, 1812.

TO CONVERT IRON INTO STEEL.

New Improvement in the art of making Steel, by which the one half, more or less, of any bar or piece of Iron may be converted into Steel, and leave the other part of the same bar pure Iron.

By Eben. Jenks.

It is well known to all persons conversant with the art of converting iron into steel, that the pulverized charcoal or carbon together, with whatever other substance they may mix with it, if any, is laid into the furnace in layers, between each layer or strata of iron. 1st. To make one side of common flat bars of iron into steel but half through each bar. Let there be first a layer of carbon in the common way, then a layer of bars of iron, then a layer of clay, or mixture of clay, that will not melt with the necessary heat to be applied, or any other substance not containing carbon sufficient to convert iron into steel, or that has a tendency to damage the purity of iron. The next layer of iron to be laid upon this clay or other substance, and then again carbon, and so through the batch, alternately, a layer of carbon, and a layer of other substance between the layers of iron. Being thus laid and heated a sufficient length of time, and to a proper degree of heat to convert the bars of iron thoroughly into steel, when laid in the common way, will of course leave these bars half iron.

If it be wished to make the bars more than half steel, it will be seen at once that it must be kept hot a suitable time longer; and if less, then half a suitable time shorter. If one edge of flat bars are to be converted to steel, the same principle is to be followed, by setting the bars edgewise in the furnace, and letting the carbon come in contact with the iron on both sides of the bar, as far as it is wished it may be converted to steel, applying the clay or other substance to the part to be left iron; and in whatever shape the iron may be it is immaterial, so that the carbon come in contact with the part to be made into steel, and not elsewhere.

This operation may also be performed without any clay, or any other substance being applied to the parts to be left iron. The application of clay, &c. is much preferable, as by it there is a more complete command over the parts not to be converted into steel.

TO SECURE HOUSES AGAINST FIRE.

Improvement in Building Houses to secure them against fire.

By Joseph Hadley.

Let the partitions be built of laths or thin boards, two inches wide, or thereabouts, as shall suit the builders, laid up flatwise in mortar, one upon another, the edges will serve as common lathing for smooth plastering on each side, if requisite, which laths may be supported by different methods; when the building is framed, posts or studs, ploughed or channeled, may be prepared and framed in, where the partition or plas-

tering is to be made, and the laths cut a suitable length, and in a suitable manner, exactly to reach from one stud to another, and fill the channels, which will support the wall or partition. This may be done in almost, if not quite every place where a wall or partition is, or may be required. When one partition is joined to another, or frames an angle with another wall, it may be laid up in what is denominated cob-house fashion, the mortar when dried, will be sufficient to support it. Thus the partition will serve to keep the fires from spreading from room to room, and the wall will keep it from catching the clap boards from within. Around the fire place and particularly above it, where the chimney is contracted, let this plastering begin. If necessary, let the first laths be made narrower, so that they may not lie over, but continue perpendicular with the front part of the chimney, and then build up as before directed. Ornamental work, such as a chimney piece, and the like, may when the wall is high enough over the fire place, be laid back upon the laths, when the wall is built, and then nailing down through the laths or the chimney pieces, will be sufficient to hold it. In this way, if the wood about the fire place should take fire, no material injury would possibly accrue, there being nothing to encourage the spreading of the fire. The laths being thus laid in mortar would not be consumed even by the immediate application, for several hours, of an ordinary fire to warm a room. Over head the laths must also be laid edgeways in mortar and many inventions may be used, to fasten them. One of which may be, to take tin plates of iron suspended a suitable distance below the beams, so as to have the mortar to lie snug to them by iron stirrups; made of large wire, or otherwise fastened to the side of the beam above the plastering which will support it. These plates may be covered by the plaster, so that the room will be equally elegant. A similar process may be taken with the roof. The upper corners of the rafters may be cut off, and leave the upper edge but just wide enough to nail the boards on for the roof. Then from the plate lay up laths in mortar, cut an exact length to reach from one rafter to another, and in a suitable manner to fit in upon each rafter where the corner is cut off, and in this way the rafters will support this wall, built for the safety of the roof. But it is not considered that every builder who uses this improvement will need to guard them in every particular. For the building of these different walls, it is presumed, that clay mortar is preferable to lime, because, by experiment it is found to be much better to stand fire. Still the outside coat, if the builder wishes, may be made of lime. Fuel is of such a nature that it requires a collection of it to burn, and in this way of finishing buildings, there would be so little wood exposed, such as the studs or posts, and doors only being in an unfavourable position to be consumed, that there would be but little if any danger. To prevent fires spreading by the floor, let the partitions, doors, on the sleepers as low as the under side of the floor, and then in case it should take fire in one room, it would be quite unlikely to spread to another, for the sleeper on which the partition would rest, being so much alone, would aid the fire, but little, if any.

INFLEXIBLE BOOK-BINDING.

By John Meek.

This improvement consists in first cutting off the folds of the leaves true, in a press, then letting in the bands, and fastening them with glue, in the usual manner, and when dry, cut the front and edges of the leaves in the usual way. Then glue on the back edges of the leaves, firmly and closely, a strip of wood, or other suitable matter, of proper form, length and thickness, proportionate to the size and thickness of the book, which, when dry, must be planed down on the edges, so as to project over the paper of the book on each side the thickness of the pasteboards, and so form a rabbet for the pasteboard to work in, like a door, working in the rabbet of its casing. It is then fit for covering and finishing in the usual way.

The advantages of this mode of binding are various. 1st. It requires neither stitching or sewing. 2d. As all the folds of the leaves are cut off, and each individual leaf is cemented through its whole length, from end to end, to the board that forms the back, its leaves cannot in using start from the binding. 3d. The back may be made of any required form, a great variety may be produced, and the greatest degree of neatness and elegance may be obtained in the finish. 4th. As these backs are not elastic, they cannot wrinkle and crack in opening; therefore, let the book be as thick as it may, it will always keep its form, and thus best fitted for the book case. 5th. They are considerably stronger than books bound in the usual way.

Patented August 26, 1818.

VEGETABLE ACIDS.

Improvement and Application of Vegetable Acids.

By N. S. Allison and Ben. Hugler.

Take the acids of currants, of goos

berries, of cranberries, of grapes, of hazle-nut husks, of tartar, of apples, of sorrel, (oxalis) of sugar, and of other vegetables, or other vegetable acids, divest them entirely, or nearly so, of their mucelage, extractive matter, or alkaline, earthy or metallic substances with which they may be combined, by the following process:

Take a given quantity of either of the above acids, and reduce it to a fluid state by boiling, pressing, or dissolving; then add a sufficient quantity of powdered chalk, lime, or marble, to saturate it: let it remain twenty-four hours, frequently stirring it. Decant the supernatant liquid, wash the precipitate well, and add, of sulphuric acid, diluted with twenty times its weight of water, sufficient to saturate the lime. Let it remain 48 hours; filter, and the acid will be pure, and capable of chrystallization. Or, any of the above acids may be obtained in a pure state by the processes described by chemists. When they are designed to be used in a liquid form, they may be concentrated or not; and let them be scented or flavored with either the skins or the essence of lemons, limes, or any other similar aromatic: also two or more of the above acids may be mixed together, or a portion of lemon or lime juice be added to them.

When they are to be used in a dry state, let them be evaporated to a dry state, either singly or mixed, and be pulverised and scented, to imitate as nearly as possible the fresh lemons, or limes, as above: and let the powder be put up in vials, or other vessels, and corked and sealed, to preserve the flavour until wanted for use. Or the acid may be mixed with a proper proportion of sugar, and be put up in packages or otherwise, ready for use.

Patented June 5, 1812.

A NEW GAS LAMP.

By David Melville.

This gas lamp is an apparatus for separating the hydrogenous gas, or inflammable air, from the carbon and less volatile ingredients of pit coal, for the formation of gas lights, for the lighting of manufactories, mines, mills, theatres, light-houses, public and private buildings, &c. in a more convenient, agreeable, and much less expensive manner than has hitherto been done by any other method.

These objects can be effected by a simple apparatus, consisting of a tight iron retort and a furnace, (which, for the sake of economy in fuel, is placed in the centre of the retort,) a purifying vessel or bath, partly filled with lime water, and a reservoir or gasometer, connected together by pipes, leading from one to the other. The apparatus being adjusted, the mode of operation is as follows:——A quantity of pit coal is placed in the retort, the covers well screwed on, and luted tight; and a strong heat being applied by means of a coal fire lighted in the furnace, hydrocarbonate gas, or inflammable air, more or less carbonated, will be driven out of the coal confined in the retort, and forced through the lime water in the bath, by which it is purified: from thence it is conveyed to the reservoir, or gasometer, where it may be reserved for occasional use: to be conveyed through pipes or tubes to any distance, or in any direction, by the force of its own elasticity, and let out through as many apertures as the operator pleases: instantly on its being so let out of a pipe or a tube, and coming in contact with the oxigenous gas of the atmospheric air, it will take fire by the application of a taper, and will continue to burn with a brilliant flame, without smell or smoke, as long as there is any gas in the gazometer or reservoir. Each flame may be regulated to give more or less light, by a separate key, and the whole (be there ever so many) may be regulated as to the size of the flame, or they may be instantaneously extinguished by a single key in the main tube. *Patented May* 1, 1810.

FISH GLUES.

Method of extracting Ichthyology, Isinglass, or Fish Glues, from the fishes inhabiting the waters of the United States.

By D. Waldron.

The sound or air bladder of fishes, but more particularly those of the creatures called weak fish in New York, are taken from their bodies, and separated from the entrails and offals. They are afterwards dried in the sun and air, with all convenient rapidity, that they may thereby escape every taint of putridity and be in no degree infested by worms. By this operation they become a sort of semitransparent substance capable of being readily converted into glue, or glutinous matter. To refine this substance, it is steeped and washed in lime water for a sufficient length of time, to separate its oil, and to remove its fishy flavour.

This being done and the glutinous matters separated from the oily, fishy and other foreign ingredients, and their sounds properly dried thereafter, they are thereby duly prepared for maceration or boiling in water. By the aid and operation of heat, they soften and dissolve into an adhesive and tenacious mass, which, on cooling, contracts into a jelly or glue.

The jelly or glue has the following properties, viz. 1*st*. It has the quality of causing substances to adhere after the manner,

of other animal glues, and thereby being useful in the economical arts, and in the business of trade. 2*d*. It has the properties possessed by isinglass procured from the sturgeons of Russia and the eastern hemisphere, of being a restorative article of diet, and of being good for medical prescriptions: 3*dly*. It is excellent in the culinary art; and mingled with cream and other ingredients, is a most useful in formation of blanc mange, and other preparations of confectionary. As it also is in the settling of coffee and the clarification of liquors generally, and more especially of wines, ales, ciders, and malt liquors

Patented March 4, 1812.

A MACHINE FOR TANNING LEATHER IN COLD WEATHER.

By Caleb Atwater.

Have an iron kettle or boiler for the purpose of containing water, with a wooden lid or cover; a wooden penstock let into the boiler through the lid or cover, and extending upwards; in one side of the penstock, towards the upper end, is a hole made by an augur, into which enters a common conductor of wood or other materials. The other end of which conductor, passes over the tan vats—the steam arising from the boiler, which is fixed in an arch ascends the penstock, and from thence passes into the conductor over the vats;—one or more wooden conductors to each vat, to be let into the main conductor, and penetrate downward into the vat, which is open at the lower end, which will enable persons to tan leather in cold climates in the winter season as well as in summer.

Patented June 2, 1813.

A COMPOSITION TO BE USED INSTEAD OF JOSTIC.

By Fred Eckstein and J. M^c Ilhinney.

Jostic is a material inported from the East Indies, and used for the purpose of lighting segars, or as a match light, during the night, &c. In burning it emits an unpleasant odour, and the use of it on that account is much limited. The composition as offered as a substitute is, where nitre is used, without odour, and when the gum is used, gives an agreeable perfume.

Take three pounds of pulverized coal, or dust of mahogany or other wood, or vegetable substance, one pound of meal or other vegetable substance, proper to form a paste, a quarter of a pound of nitre or inflammable gum, or other inflammable substance proper to form a paste; or a greater or less proportion of each article to render the composition more or less combustible. Mix them together, boil or make a paste of rye, or other proper materials, and with it work up the composition into a dough, and form it into sticks of any dimensions, or into any convenient shape, and dry it perfectly.

Patented Oct. 12, 1814.

A COVERING FOR HOUSES, &c.

By Abijah Rogers.

After a roof is shingled or thatched, take hot-pitch, and as you put it on mix fine sand with it, as much as it will take in. The pitch being laid on hot will fill every crevice, and the sand upon it will make a cement. Should you think one coat not sufficient, you may lay on a second coat: but as far as experience has gone, one coat, well laid one is sufficient, and will keep the roof secure against beating rains or drifting snows for years.

Patented March 14, 1817.

DIE WORK A SUBSTITUTE FOR ETCHING.

By Abel Brewster.

This improvement in *die work* is as a substitute for etching or engraving on plates, for the purpose of printing, principally comprehended in an improved *construction* of dies for said purpose, made subject to have their denominative parts taken out and changed. Together with an improved kind of work for ornamenting dies for said purpose, made with punches forming vines, and other devices or designs of regular roses, stars, round and oval circles, buds, &c. made separate or interpersed with work in imitation of chance in the die. And a new method of using dies or punches for said purpose, by means of mathematical instruments, made to hold the punch perpendicular, and to move it a given distance at a time, in direct lines, or in a direction to trace oval, octigon, or other figures, principally designed to prevent counterfeiting of public papers, but useful for other purposes. The main die is a female die, the denomination is made a male die, which goes into the female or main die, and is filled to the size shape or plan designed to be occupied by the denomination.

Patented July 15, 1813.

ESSENCE OF TANSEY.

By Israel Newton.

The essence of tansey is a composition

of oil of tansey, oil of pepperment, alcohol, red saunders and safron flowers, in the following proportion.

Take the oil of tansey one pint, oil of pepperment one gill, alcohol fifteen pints, and mix them well together, then add to this a tincture of red saunders and safron flowers, to give it a colour Let it stand six days, then turn it from the sediment, and it is fit for use. *Dose* for an adult from 10, to 50, drops

The principle qualities of the above composition are anthetmentic, tonic, and stimulant.

Patented Feb. 28, 1806.

TO PRESERVE BUTTER.

By Moses [illegible]netone.

The firkin before being filled with butter, to be emerged in a large kettle of strong brine, impregnated with two ounces of salt petre, per gallon, and boiled until the sour particles are extracted from the wood. Immediately after being filled with butter, to be sunk either in a cistern or strong brine, or otherwise enclose in light cases, or firkins, which outside cases or firkins being filled quite up with salt, and strong brine, then headed and bunged quite secure from leakage.

Patented June 30, 1797.

TO MAKE VARIOUS COLOURS.

By Francis Guy.

To make Letter Press and Copper-plate Printing Ink.

Take pit coal in its crude state, and grind it with linseed oil burned; grind with these as much Prussian blue as will make it a good black.

Indigo Ink is made by grinding unburnt coal with size or gum. From this may be made Indian ink of any shade, by the addition of Indigo. Various colours are produced by the cinders or the ashes of the coal, but much depends on the quality of the coal: and all kinds are make more red by fire. If sea salt and vitriolic acid be added, some will come out as red as vermillion, others more of the purple hue, according to the nature of the coal, the strength of the acid or the heat of the fire, &c. All of which can be better understood by practice than by any description that can be given, for if the cinder reduced to powder, or the ashes be put in a crucible and burned without salt or acid, the effect will be evident; and if salt or acid only is added, or both combined, then the result will give convincing proofs of their invariable effects. As to all distemper colours, when they are prepared in the above manner, they need only be ground in gums or glues, instead of oil. *Patented Dec.* 30, 1803.

WASHING MACHINE.

By Beardsley Hendryx.

The plan of said machine herein-after specified, the exclusive use and benefit of which, I, the said Beardsley Hendryx, claim as constituting this my invention, is as follows, *to wit.* A box or vat, is first constructed of suitable dimensions, to contain the clothes to be washed, and the water for washing the same, say about three feet in length eighteen inches in width, and fourteen in depth, the bottom whereof may be straight or curvilinear. At the ends should be two small lids hung with hinges to prevent the water from escaping when the machine is in operation.

Into the above box is to be introduced a dasher, constructed as follows:— It is to be of sufficient size, to nearly fill the whole box, leaving a small place on each side, of one fourth of an inch, and on each end of about one inch, measuring the periphery of said dasher, the under surface of which is to be the segment of a circle of about four feet in diameter, and may be constructed of one entire peice of wood, and fluted across the bottom; but the manner which I would recommend, would be to take a number of small peices of wood, or any suitable material of about two inches in width, three fourths of an inch in thickness, rounded on the outer or under edge, (exposed to the clothes,) and about three eighths of an inch asunder, framed into two peices of boards, of which consist the sides of the dasher, between these two peices of board, which are, of course, nearly as far asunder as the aforesaid box is wide in the inner side, and upon the small pieces of wood is to be placed a block of wood (which I call a bed block,) or any other suitable material, of forty, fifty, or sixty pounds weight, in order to give sufficient weight to the dasher, into which is inserted an upright post, (which I would term a balance post) by a tenon fitted to a corresponding mortise. The above mentioned bed block ought to be contracted so much in width as will let the water escape with ease through the ends of the dasher, and also in thickness, that it may be turned up on one end to take out the clothes, and replace others. The balance post ought to be small at the lower end, that it might not interfere with the end of the box when the dasher is turned up as aforesaid, but should be of suitable length; and the size at the top should be sufficient to balance the dasher, as it vibrates from one end of the box to the other, in the manner of rocking a child's cradle. Near the top of the aforesaid balance post, may be inserted a pin or handle to take hold of; and also a pitman may be extended across one end of the aforesaid box or vat, that a person may keep it in motion when sitting. &c.

the bottom of said box, should be a faucet or cock, to discharge the water, the said box may stand on legs sufficiently high to suit the purchaser, or be inclosed at the bottom to form a small closet; and when not in use the balance post may be slept from the bed block and laid in the box and kept under cover. The aforesaid box or vat may be extended three or four inches on each end, and a false end inserted perforated with holes or composed of rollers, so that the water driven forward by the dasher may escape through the apertures into the false ends, which will prevent its flying over the top of the box. The rollers ought to stand perpendicular, or the sides of the box may be raised six or eight inches above the ends, and small doors placed on the top of the same, with hinges in such a manner as to fall down and make room for the balance posts of the dasher, to lie over the aforenamed box; to which may be added two folding lids or covers running lengthwise of the box, leaving an aperture between them of sufficient length and width for the balance post of the dasher; which lids may be hung with hinges in such a manner, that when open, they will hang down on the sides of the box. *Patented May* 6, 1810.

TO CONVERT EARTHS or MINERALS INTO PAINTS.

By And. Alexander.

Every description of ores, semi-metals, pyrites, gangues, petrifactions, unmetallic earths, and all metallic combinations, are, in their natural state, colouring matter, which, when pounded and ground down to the requisite fineness, are useful and durable pigments or paints: nothing more is necessary in the preparation of these paints, than to pound and grind them to the requisite fineness, in the same manner, and in such mills and machinery as are used in manufacturing the plaister of Paris, or other substances equally hard. When these new pigments or paints are thus sufficiently pulverized, they are to be ground in oil or water, either washed or unwashed, as other paints, and may be then used, or put on in the same manner.

Ores, semi-metals, pyrites, gangues, petrifactions, unmetallic earths, and all metallic combinations, may be corroded or oxidated to a degree beyond that which they generally possess in their natural state, and by being so corroded or oxidated and changed, they become more valuable as pigments or paints. To produce this effect, it is only necessary to pound the several substances slightly, until they are broken to the size of a common hen's egg, when, by exposure to the atmosphere, they are gradually more oxided, and the colours insensibly changed. This process may be simplified and shortened, by the use of acids that are common in the laboratories of chemists. But so various are the proportions of elementary substances, and so different the combinations of the different subjects, (taken even from the same mine) that it is impossible to predict what will be the change of colour made upon any specimen, by any particular acid—experiment only can elicit, or develope the colour. In the present state of knowledge, more is not expected; and it is sufficient to say, that by treating the several ores, semi-metals, pyrites, gangues, petrifactions, unmetallic earths, and metallic combinations, with the different acids, an almost infinite variety of the most brilliant and beautiful colours, and colouring matter, may be obtained. These several ores, semi-metals, pyrites, gangues, petrifactions, unmetallic earths, and metallic combinations, thus acidified and oxided and changed, are then to be pounded and ground to the requisite fineness, in the same manner, and in the same mills and machinery, as those hereinbefore referred to; and when sufficiently pulverized, are to be ground in oil or water, as other paints, when they may be used and applied in the same manner.

Patented Feb. 10, 1814.

TO EXTRACT GUM FROM BARK FOR DYEING AND TANNING.

By Samuel Downing.

The bark is ground and boiled to a proper consistency, the liquor is then drawn off by means of a cock, and put it into a second kettle to evaporate until it has obtained the consistency of tar or thick molasses. *Patented June* 12, 1801.

TO EXTRACT THE ESSENCE FROM GUM OR BARK.

By Samuel Downing.

The bark is to be pealed in the months of April and May, when the sap runs freely, and when pealed, must be carefully dried, and kept from being wet. Previously to being used it must be shaved or rossed, so as to take off all the outside or coarse flinty part of it; it is then to be ground in a mill in the manner in which tanners usually grind their bark for tanning, but finer than is usually practised among tanners, and kept clean from any extraneous matter. It is then ready for the boiler. Previously to putting the bark into the boiler, place two bricks on the bottom of the kettle, one on each side of the aperture into which the brass cross cock is inserted, at the distance of two or three inches from the mouth of the cock, and another brick across their ends, then place bricks crosswise, over the bricks, and cover the whole bottom of the kettles with straw of wheat

OBTAINING EXTRACTS FROM BARK.

By William Greene.

An effectual mode for extracting the essence of gum from the bark of various kinds of wood, so as to retain its natural colours and qualities, and at the same time to preserve it from any danger of fermentation or decay, by a peculiar mode.

The process as described in the former specification is justly right when the substances are intended, for the purpose of dying, or calico printing, from both of which businesses such proofs have been obtained as fully established its value. However, in that designed for the use of tanners, the extract is found to be most highly improved, by adding to every hundred weight of the ground bark, eight pounds of red berry, which grows upon sumack; the advantages therefrom are hardly conceivable, as in the first place it opens the nature of the bark, and causes a much quicker precipitation of the light woody matter, when settling for evaporation. It also holds in a complete dissolved state every particle of resinous matter contained therein, and supplies the great loss of vegetable acid, so necessary in tanning, and which evidently escapes during the evaporation. The good effects of this addition in regard to tanning, is quickly to be observed from its immediate action on the leather to which it imparts a fine colour, a fills, in the completest manner.

Patented Oct. 20, 1812.

TO SOFTEN CRUDE OR CAST IRON.

By A. Scott and J. Seldon.

Take two parts of quick lime, and one of alumine, or common fine clay, mix them with water to the consistency of thick paste. Spread this mixture over the iron to be softened, about one eighth of an inch thick for small pieces, a little thicker for large. Place the iron so prepared, in an iron case with a cover, which must be luted at the joints so as to exclude the air: place the same in a furnace, and heat it to cherry redness, then cover it with the hot ashes of the fire, and let it remain till cool, it will then be softer than common wrought iron.

INSTANTANEOUS LIGHT.

BY RICHARD AND N. S. ALLISON.

Construction of Boxes to contain the Materials for Producing Instantaneous Light; and in Making the Matches and otherwise Improving the Apparatus.

Let the lid of the box containing the bottle and matches, have a socket on the inside; which, when the lid is taken off the box, and inverted, may serve as a candlestick, to hold a wax taper or other candle: and let there be a corresponding socket in the box open at the top to receive the taper when the lid is put on, and to serve as an extinguisher. Let the matches be made of pasteboard, cotton, or tow wick, splints of wood or other suitable substance, and let them be prepared in the following manner. In the first place, let them be diped in grease, or some of the fixed or volatile oils; or let these oils have dissolved in them, amber, copel, sandrach, or other resins, wax, spermaceti or gum resins, or the gums wax, or resins, &c. may be dissolved in alcohol, spirits of wine or spirits of turpentine, for the matches may be made of spirits of aspine wood. Let some of the matches also be coated with wax partially, they may also be rendered aromatic, or otherwise, when sufficiently dry. Such as are least inflammable may have a small portion of sulphur upon the point, or of inflammable resins, made into a paste, but in such as are of materials sufficiently inflammable, the sulphur may be omitted. Then take one pound of the chrystals of hyperoximuriate of potash, half a pound of flour of sulphur, one quarter of a pound of loaf sugar, a quarter of a pound of vermillion, and two ounces of gum arabac pulverized. Let these ingredients be well mixed in a stone or glass mortar, with a sufficient quantity of spirit of wine or water, to form the whole into a paste. Into this composition let the small end of the prepared matches be dipped and dried for use. Let the bottle then be prepared, by putting into it some soft asbestos, wet with sulphuric acid, into which a match being dipped, will instantaneously take fire, and burn with a bright flame, and those matches which have no sulphur on the point, will be free from the feeted smell of sulphur matches. Let the corks for the bottles, when glass stoppers are not used, be impregnated with an alcali, and coated with wax, to prevent the acid from destroying them. [*Patented May* 12, 1812.

FLIES FOR STIRRUPS.

BY DANIEL ADAMS.

The fly is fixed at the top of the stirrup by a socket that plays round a cross bar, just below where the stirrup-leather enters the stirrup, and the stirrup rests upon. The bottom of the fly, on each side thereof, rests on the outside or inside of the stirrup, and just big enough below the fly for the foot to enter and to rest easy on the stirrup; and the foot enters on that side of the stirrup against which the fly rests, and is stationary, so that the foot cannot enter the stirrup further: and by taking the foot out of the stirrup the fly goes back the same

way easily, and throws the foot out of the stirrup instantly and easily.

Patented Feb 3, 1819.

WASHINGTON FORUM.

The substance of speeches delivered by Mr. W. E. in the Washington Forum, on the following questions.

"*Whether is Domestic Manufactures or Foreign Commerce more for the benefit of the United States.*"

By *Domestic Manufactures* I wish to be understood as meaning the manufacture of those articles which may be made and used in the United States.

By *Foreign Commerce*, I wish to be understood the trade carried on by the United States with every other nation, and by which the produce of this country is exchanged or sold for the money or manufactures of other nations. At present the commerce of this country is chiefly carried on with Great Britain. That nation supplies us with most of the articles used in clothing, hard ware, earthen ware, &c. For which they receive in return our superfluous produce (if they absolutely want it,) or the cash which we draw from South America, Spain, Portugal, &c. The balance of trade, as it is generally called, has always been in favour of England and against the United States: that is, England receives many millions of dollars more from us than we do from her. By this means the circulating medium of trade is constantly drained off from this country, and the sources of national industry and internal improvement are dried up, and the prosperity of the nation is suffered to wither and decay. Money, the circulating medium of trade, has very justly been compared by that distinguished financier, the Hon. Thomas Law, to the blood of the natural body which gives health and life to the animal system; so also are the effects of money on the body politic, for by it trade, manufactures, agriculture, and every species of national industry and ingenuity, receive their motion and vigour.

The effects of domestic manufactures on a nation, are not only national wealth and power, but they have the most favourable effects on the state of society. Observe the striking difference between the house where almost every article of clothing is made by the family, and that in which every thing is purchased. The first will grow rich, and the whole family will be taught habits of industry. The other will become every day poorer; debts will increase; and nothing but idle and vicious habits will be formed, particularly by the females. So it will be found with a nation; that nation which manufactures all its own goods will become rich, and its inhabitants industrious, whilst that which buys all will become poor, no matter what are its internal wealth: a stock of industry is worth more than mines of gold and silver. Neither Spain nor Portugal will ever be rich, though they have enough of the precious metals, as long as they lack industry. Nothing can be more clearly demonstrated than that the nation that buys more than it sells must become poor, and dependent: and this I fear has been the state of this country for many years past.

Some short sighted people think that to encourage domestic manufactures, would be to raise the price of articles. This probably would be the case for a while; but eventually, competition in trade would soon correct this evil. Besides, the true patriot ought not to complain if he do pay a little more for his clothing, &c. provided his country is benefited by it. This would be but a trifling sacrifice to produce a permanent good.

The history of manufactures is closely connected with the history of human liberty. The birth of religious, and I may say, political liberty, was amongst the manufacturers of the Netherlands; and when banished from the continent by arbitrary power, took shelter in Great Britain. And now that tyranny has laid its chilling hand on the manufacturers of England, liberty will not long remain her guest; she will soon seek a more congenial climate.

When speaking of domestic manufactures, I do not wish to be understood, as recommending such establishments as are to be found in England, where every species of misery is generated, and where the human character is completely degraded. No, I wish to recommend *domestic manufactures*, properly so called: where national and individual interest will be promoted.

As regards foreign commerce no such advantages can arise to the nation. For it is found that some nations carry on a very profitable trade without having much shipping of their own; such are the Chinese, &c. However this is not the national character I would wish to imitate. We certainly should encourage commerce to a certain degree; because in doing this, we create seamen, who are absolutely necessary for the objects of national defence. But speaking of commerce in its strict sense, I doubt very much whether the nation is any richer or happier by its means. It is true, that a great part of our public revenue has been gathered from commerce; but I think it had better have been taken from other sources. We have lost, I believe, more by commerce than we have gained, if we take into account the immense spoliations committed by other nations, losses at sea, and unprofitable speculations of merchants; all of which will eventually fall on the country. To these we may fairly add the expences of the navy. Then balance these with what

is gained, and I think that commerce will stand indebted to a large amount.

Some time back many wise men doubted the policy of encouraging domestic manufactures, owing to the profitable trade carried on with other nations, for our produce. No one can imagine that this is now the case. I believe it would have been good policy to have given encouragement at all times to Domestic Manufactures. But in the present state of the world no doubt can possibly exist as to what is proper to be done for the good of the country.

Let those who are in favour of "leaving manufactures to themselves," consider what would have been the state of the fisheries if they had been left to themselves. We would not at this day have found them the great nursery of our seamen for national defence. And if domestic manufactures are left to themselves, we will find they cannot rise, when it is known that our citizens *cannot* possibly live on the same income that the oppressed subjects of Europe *must* exist on. Or who would wish to see our citizens reduced to this state? Let us therefore cherish this great source of national wealth, independence, and happiness.

What I have hitherto said in favour of domestic manufactures, has been confined to a state of peace, like the present: but it must be obvious to every one the important advantages that would arise to the nation in time of war, by their proper encouragement: as we would thereby be rendered independent of other nations for articles of immediate use and of first necessity.

Question—*Has any other animal except man, Reason?*

As a preliminary step on entering on this question, I will endeavour to define my meaning of this word *Reason*. In its most extensive sense, I conceive it to be a certain principle in the mind, by which it compares different things, actions, words, and thoughts, as regards number, quality, usefulness, &c. I do not conceive, as Mr. Locke and some other learned men have defined it, to a power in the human mind for combining and resolving compound ideas;—for I conceive the difference between solving simple or compound ideas, will be found to differ only in degree, and not in the quality of that power in the mind.

We will now see from the natural history of inferior animals, how much, if any, of this principle is possessed by them. It is self-evident, that all animals possess a certain principle by which they procure food, and propagate and preserve their species; but this principle is termed by many, *instinct*, not reason. However, whatever we may call it, is very wonderful in many animals; for its operation is not merely confined to necessaries of life, or connected with their existence, but extends itself to its pleasures and comforts. View the wonderful skill, contrivances, and systematic labours of bees. Their cells are made in the best possible shape to afford room and convenience: It is a hexagon, whose side is equal to the radius of the circle which would circumscribe it. By what art could this be discovered? The manner in which they collect their food and store it away, is equal to the best contrivance of man for that purpose. The order which is preserved in their society, is equal to the best regulated government of man; their industry, economy and foresight, is quite equal to any thing recorded of in the history of man.

Ants, also, have long been famous for their sagacity, industry, and economy. They first make choice of a dry pleasant place, in which to establish their republic. It is laid out in regular lanes and streets, for passing and repassing: they lay up a store for winter and bad weather with as much skill and forethought, as the most thrifty farmer. And they do not seem to be deficient in politeness; for they never meet each other without touching noses.

Behold the wonderful labours of the spider! They are well worth the attention of the geometrician and the architect. See with what skill it projects its main lines, and how they are strengthened and supported by others, which serve as braces, &c. The most cunning hunter does not display more skill in taking his prey, than the spider.

Consider the sagacity of the beaver; he chooses, with the greatest judgment, a situation on some river or creek, where he can throw his dam across: he cuts down his timber, and builds his house with suitable apartments: he has his eating and sleeping rooms, his cellar and his garret: he cuts his wood for food into suitable lengths, and piles it up in the most proper manner for his winter's store. The strength of his building will resist the greatest floods, or the attacks of the most powerful enemies.

Who can behold the wonderful skill of birds in building their nests; their art, and their courage in protecting their young: their social and affectionate mode of living: their cheerful and hap-

py life, without wishing to share their happiness.

Many animals possess memory, and other powers of the mind, in a high degree. The numerous instances of the memory and sagacity of the elephant, the dog, and various other animals, if recorded, would fill many volumes.

But of all the animals that approach nearest to man in the state of society, none, in my opinion, can compare to the sea otter, seal, sea-horse, &c. Several of these animal live in a state of well regulated society; each male seems to have his female, of which he appears very jealous; for if one intrude upon the family of another, a battle takes place, and the conqueror takes the wives and children of the conquered. When attacked, they have been known to follow the boat and try to upset it; and when struck with a harpoon, to follow the same and endeavour to pull it out with their teeth. When nursing their young they fondle and kiss them, and seem to have a kind of language.

Some animals, such as the tribes of apes, baboons, orang-outangs, &c. not only imitate man in most of his manners, but even in his vices. It has been objected by some, that they do not reason, because they do not kindle a fire, though they will add fuel to one already lighted. But when the Dutch first explored the East Indies, they found some Islanders who did not know the use of fire; and when they saw one kindled, and viewed effects, they considered it a living animal that devoured all that was given it.

Now, Sir, from these facts, and from the natural history of inferior animals, I conclude, that many of them possess reason in a high degree, though much inferior to well educated man. They have memory and judgment; they are grateful to friends and revengeful to enemies: they have forethought to provide for the future. They seem to possess, in some degree, every power which man possesses, except a knowledge of the Supreme Being. Religion seems to be only property of the mind, in which inferior animals possess *no degree*. But this power has never been deemed the only characteristic of reason, any more than the power of studying and comprehending mathematics and natural philosophy. I therefore conclude, that all animals possess reason, and differ from each other only in degree.

Question—*Has all mankind sprung from the same common origin.*

I mean to espouse that side of the question which asserts that there is no specific difference between the several nations of the earth; and that climate chiefly produces the varieties which are to be seen.

By the term *specific difference*, I wish to be understood to use it in the sense in which it is generally used, when applied to the classification of animals, plants, stones, *etc* and by the term *variety*, I wish to apply it also in the same sense in which it is used by Natural Philosophers. My object therefore in this investigation will be to prove, that the differences which exist amongst mankind are only *varieties* of the same species, and not *specific differences*. It will, I think, be generally allowed, that to make a specific difference, there must be difference in *number* and *position* of the parts; and that *colour* is not admitted, in any instance, to be a *specific difference*.

We find different shades of colour from 60 degrees of latitude to the equator: that is, the colour deepens as we approach the line. First, the fair Swedes, the Germans and English: the tawny French, Spaniards, and Moors: the olive Moguls and South Americans, the dark brown Indians; and the deep black Africans. And it is very remarkable that no negroes are naturally bred out of the tropics.

Local causes are found to produce very considerable difference in complexion in the same climate: high mountains, such as the Peak of Teneriffe and Mount Atlas, affect the complexion of those who live near them; and the complexion is not so dark as it would have been in the same climate without the cooling effects of those mountains. Also breezes loaded with the vapours of the ocean, great forests, swamps, *etc.* have their effects in cooling the air of a warm climate, and alter the complexion of its inhabitants.

M. Condomine and M. Adenson both say, that the heat of Peru under the line, is less by 15 degrees than that of Africa in the same latitude. This may be accounted for by the immense forests and swamps, and rivers in the former, and not in the latter. In the history of Celon it is mentioned, that those who live in the cleared parts of the country, are of a brown or copper colour; whilst the

Bedas, who inhabit the mountains are quite white. It is well known, that fair Europeans, who remove to live under the line, become darker, especially if they live like the natives; and that the hue they acquire never leaves them, if they remain long there.

The author of a work, entitled French Africa, says, "the Portuguese conquerors have become quite black."

The Saracens and Moors, who came from the N. E. of Africa, in the seventh century, were brown; but having advanced towards the line, have become quite black, like negroes.

The Jews in Abyssinia have become quite black: This could not be effected by intermarriages, as it is forbidden in their law. Even people of the same families differ very much according as they are more or less exposed to the heat.

The change in the colour of the skin, when deeply fixed, is in very slow in changing; this is proved by the effect that was produced by the Moors who conquered and inhabited Spain; for, in twenty-two generations very little change was effected in the colour of their skin.

The cause of the dark colour of the skin in negroes, is the ash colour of the epidermes, a kind of mucous net work between the outer and inner skins, and which gives colour to the spermatic oil in the human body. In white people this epidermes is white; and this is the only cause which produces the difference between white and black people. It is probable that the change of colour in the epidermes must require many ages in a warm climate. The epidermes in blacks being much stronger and tougher in blacks, it probably is the cause why the hair is curled in passing through the skin.

Animals or plants of different species will not continue to produce; for though the horse and ass will produce a mixed breed, called mules, yet mules will not produce mules. In this the law of nature seem fixed and determinate, and which cannot be altered by any contrivance of man. But there is no such stoppage in procreation as regards whites and blacks, nor any other colour, the white and black produce mulatoes: the mulatoes with whites, quatroons; and so on, till in eight such mixtures whites are produced; and conversely, with whites and blacks till blacks are produced. This I cousider a conclusive argument to prove that all mankind are from the same stock, and that the differences which exist in shape and colour are entirely the effect of climate or custom. No one pretends, I believe, that there is any difference in the number of parts of the human body, or of their position amongst all the varieties of our species, however they may differ in proportion. And as a difference of this kind alone can constitute a difference of species, it may, I think, be fairly concluded, that all mankind are of the same origin; and that the difference which now exists in colour *etc.* are only *varieties* of the same species: for this is the way we would reason as regards any other species of animals; we would not think a sheep a cow, or a horse, *etc.* were of a different species because they were black.

RAISING WATER BY STEAM.

BY JOHN AMBLER, JUN.

This improvement is intended to raise water from one level to any other level that may be required, for the purpose of driving water wheels, or any kind of machinery requiring either a water or steam agency, such as mills of any description, boats or vessels, factories, &c. It may also be advantageously used in distilleries, to which, with small expence, it can be applied, and will greatly abridge the labour and cost of raising water, as also for all agricultural purposes generally, which require a regular supply of water.

For the purpose of raising water by this improvement, use is made of the agency of steam to create a partial vacuum, and such machinery as is hereafter described, which may be varied in dimensions and strength, according to the quantity of water to be raised.

A tub or cistern is placed at the top of a frame sufficiently high for the purpose required, and strengthened by braces as in the frame of a building, which tub or cistern may be made of wood or metal, or partly of each, and be of a size to hold from one to any number of gallons. Near the top of the tub or cistern, a horizontal tube or pipe is inserted into it; and near the bottom a similar tube or pipe is also inserted into it, immediately on a line under the first, the upper one for the purpose of admitting the steam, the under one to discharge the water. Between these two tubes or pipes a stem is fixed to work a stop-cock, fixed in each tube, and by a simple fixture is made to turn and open or shut the passages from the tube to the cistern. At the outer end of the upper tube it is connected to a conductor from the boiler, by which the steam passes into the

cistern, where, expelling the air, it is stopped in by the stop-cock. At the bottom of the cistern a pipe of sufficient diameter is inserted, its upper end rising inside to within a small distance from the top, the lower end going down perpendicularly, or at any angle that may be required, and immersed into the body of water from which the column is to be raised. The moment the steam is stopped into the cistern it begins to condense and create a vacuum, which is instantly supplied with water through the descending pipe, and at the moment of the total extinction of the steam in the cistern, the stem connected with the two stop-cocks is turned, and the water is discharged into a reservoir through the lower tube, while a fresh supply of steam is again entering at the upper tube; and this process is rapidly continued while the machine is in motion. Any number of cisterns may be applied to one machine, their tubes and stop-cocks being so fixed, that while the first cistern is receiving water, the second is receiving steam, and vice versa; and in the same manner with any number of cisterns, the receiving steam and discharging water being simultaneous motions.

From the reservoir the water is conducted to a water-wheel of any size, and placed in any position that may be required. A horizontal slide is placed at a right angle with the cistern, nearly on a level with the lower tube, and by its vibrations opens and shuts the stop-cocks, for which purpose it has a mortise, into which an arm, connected with the stem of the stop-cocks has sufficient play without binding, and by which the stem is turned with its vibrations. Where more than one cistern is used, the slide must have its mortises for each stem, and, as before mentioned, it will close the stop-cocks of one cistern, while it opens those of another. This slide receives its motion from a pitman and crank, described as follows:—A frame of two posts is placed in front of the main frame, with which it is connected by cross-bars, having at its top a parallel bar, into the under part of which is fixed a pulley. Near the bottom of this frame is fixed a parallel shaft, with a crank near one end, of sufficient length for the vibration required. The pitman is attached at its lower end to this crank, and has an axis placed at a suitable distance from the crank on which it moves by a sliding groove cut in the pitman; and its upper end is inserte into a mortise near the outer extremity of the horizontal slide. On this shaft, next to the crank, is placed a broad wheel, the motion of which one way turns the shaft, by means of a catch or spring fixed for that purpose, and the contrary way the wheel turns upon the shaft for the purpose of winding up the weight now to be described. To this wheel is attached a cord which passes through the pulley above, and has a weight at its end of sufficient size to turn the wheel and shaft by its gravity, thus giving motion to the pitman, which, in its turn, moves the horizontal slide. The length of this cord round the wheel is such, that the weight runs down, is wound up, and again runs down, in one revolution of the crank, leaving short intervals while winding up, that the crank stands still. In order to wind up this weight, another wheel or band-head turns upon the same shaft, (its diameter varying according to the other dimensions of the machinery,) over which a band or strap passes, and is carried by a drum on the shaft of the water-wheel; or cogs may be fixed on this wheel to be moved by corresponding cogs on the shaft of the water-wheel, to produce the same effect. This wheel continues to move in one direction, and its velocity is exactly adapted to the changes of the steam and water in the cistern or cisterns above, by the periodical pauses it allows the slide while the weight is winding up; it has a pin or cam on its side, which catches into a spring on the side of the weight-wheel at the precise moment for winding up the weight, which being done, the spring is disengaged from the band-wheel by means of an inclined plane, conveniently fixed for the purpose of striking it out of the pin, when the weight immediately begins again to operate upon the crank. A latch is placed above the horizontal slide to hold it stationary while the weight is winding up, and when the weight is wound up, this latch is raised by a pin fixed in the other side of the band-wheel from the one mentioned, which allows the slide to vibrate.

In situations where water is scarce, a second reservoir may be placed at the bottom of the whole apparatus, under the water-wheel, which, by saving the water, enables it to be again taken up by the descending tube or tubes, (each cistern requiring one of those descending tubes, or in some cases, two of less dimensions might be advantageously used instead of one longer.) This apparatus, with its accompanying water-wheel and fixtures, may be placed over rivers, lakes, ponds, wells, springs, or small streams, and supply a water-wheel proportioned to their quantities of water respectively. The weight before described may be wound up by hand, or be so placed as to hang downwards, (if in elevated situations) without the use of the pulley.

For the purpose of propelling boats or vessels by this improvement, the essential principles are, that the bottom of the boat or vessel should contain the water necessary to supply the water-wheel, which last should be placed as low as practicable, that paddle wheels, as in the common steamboats, be geared to the shaft of the water-

wheels, and work either in the centre, at the sides or stern, or the water-wheel itself, by a primary motion, may be used to propel the vessel. As for boiler, it will suffice to state, the most simple process is the best for conveying steam to the cistern or cisterns, used in this improvement.

[*Patented May* 28, 1819.

ON PAPER CURRENCY.

In the Washington Forum when the following question was the subject of discussion, Mr. W. E. delivered his opinion as follows:

"*Is a Paper or a Metallic Currency best suited to the business of society?*"

By a *Paper Currency* I wish to be understood to mean all kinds of promissory notes, issued by proper authority, payable at fixed periods, in the kind of wealth expressed in the note. Under this definition is comprehended all kinds of bank, mercantile, or government bills.

By a *Metallic Currency*, I understand any kind of metal stamped by the government with a certain value.

Money, whether of paper or metallic substance, ought to be the true representative of the wealth of the government issuing it; and ought to be convertible at pleasure by the holder, into whatever it stands for. This, in my opinion, is the distinguishing characteristic of all *good money*, whatever be the substance of which it is made. It therefore becomes a fundamental principle, that no more money should be issued, than that which has its basis in real wealth.

The advantages of a metallic circulating medium are, that it speaks an universal language to all nations; it has an intrinsic value; and is not so liable to be counterfeited as paper. But *metallic* money is inconvenient for transportation: is liable to be adulterated; wears away; its value is always changing; and is not to be had in sufficient quantity to represent the wealth of a country, so as to call into action all the resources of a nation.

Paper has the advantage of being of convenient transportation; is of constant value, if good, and can be encreased at pleasure, to the quantity required, so as to call into action all the wealth and industry of the nation. But counterfeiting is more easily effected, and the government may be induced to issue more paper than there is wealth that it represents; there being no intrinsic value in the substance of the medium. It never can be made an universal medium of trade amongst nations because it rests upon a credit which cannot be universally known to all nations.

It appears then, that both systems, *metallic* and *paper*, have material advantages and disadvantages, and which are inseparable from each system. A *union* of the two, so as to be a check on each other, would be the safest and best for a nation.

I lay it down as an axiom, that money, or rather the representative of it, ought not to be issued, without its proper basis on wealth. That basis should be of an unchangeable nature, such as metal or land. The metallic basis will answer all the purposes of commerce, because convertible at pleasure: but it should not be confined to what are called the precious metals, gold and silver, it should be extended to all the useful metals, such as iron, lead, tin, zinc, platina, &c. This would be a great convenience to mankind generally; for some of these metals abound in most countries, and having a fixed determinate value, as well as gold and silver, would encrease the circulating medium to what is required for the purposes of trade, always having their representatives in paper. National land, having a fixed price, is also a proper basis for a circulating medium for the internal trade of a nation: and would be peculiarly useful for the United States. Money issued on this basis, by the representatives of a free nation, would hardly be abused; without supposing they would commit an act of national suicide. The failure of the paper system during the revolution, can easily be accounted for;—The event of the war was doubtful, especially in the minds of timid, wary merchants; and the basis, national *credit*, was not considered solid. As to the late issues of paper by private banks, I do not consider they had any basis whatever, nor was there any power to control the issues of such spurious money.

There ought therefore to be no other source from which money should issue, whether metal or paper, except the government of a country; and money ought to have its basis on convertible wealth, such as metals, when used for foreign commerce; but might be on national lands, when used for internal trade; therefore it would be well to have two distinct kinds of money; and

the representative of both ought to be in paper, being the most convenient medium for transportation. There is an indirect advantage arising from *paper money* which ought not to be neglected; it causes all people to set a proper value on *reading* and *writing*: this, to a free nation, is no inconsiderable consideration.

The metals, to be used as the basis of money, ought to be stamped by public authority, stating the weight and purity of the pieces; and which might be from 1 to 50lbs. in a mass.

One of the chief objections against a paper currency, is the ease with which forgeries can be committed; but I think this might, in a great degree, be prevented, by inserting well engraved *heads* of eminent men in the notes, as it becomes very difficult to copy and engrave exact likenesses, and the difference is easily discernable But metal is also subject to be counterfeited and debased; and is therefore not free from the same objection.

TO MAKE HOLLAND GIN.

BY A. BOUCHERIE.

Gin Cordial is the product of two substances—the one drawn from rye by malt and distillation, making the ardent spirit known by the name of whiskey; the other the berries of juniper tree. The American continent posseses abundantly the necessary productions for making that very liquor.

Spirits drawn from rye-malt, in the American distilleries, are at 19°, according to Caitier's areometer; Farenheit's thermometer, at 57°, and 10° by Neaumans. Its quality is altered by the action of the fire which it has undergone in common alembrics. To depurate and concentrate that spirit, a distilling apparatus is employed, because, through the distilling runs which compose it, that spirit undergoes the benefit of a number of successive rectifications, which brings it to the highest degree of depuration and concentration.

Rye whiskey is preferred. Some, however, are as fond of the whiskey made from apples, sweet potatoes, &c. as of that from corn. Whatever spirits are employed, they must be brought to the degree of alcohol, that is, to the highest degree of concentration, because liquors made with such spirit possess the finest degree of quality.

The juniper-tree, (*Juniper Vulgare aut Cedrior*) erroneously called cider, is resinous. Its fruit, when fresh, and carefully gathered, and kept free from fermentation, is here of a very good quality. Consequently to its constituent principles, that fruit abounds in essential oil. When distilled in alcohol, the spirit yields that oil in great quantities, and keeps it in dissolution. Water poured upon that composed liquor, immediately causes the separation of the two former substances. The water and the spirit, on account of their greater affinity unite themselves together, absolutely the spirit abandons the oil: this soon appears under the form of an emulsion; the whole looks dim, white, and opaque. It is yet very unpleasant to the taste, for it partakes of the acerbity belonging to essential oils.

The juniper berries should be distilled upon water alone. The operation should be performed in a large boiler; the vapours pass directly into the worm, a privy apparatus is applied to that part of the operations, because the essential oil, fixing itself all along the inside of the vessels, would afterwards be dissolved by the spirit, if any was distilled through the same vessels, and would prejudice the liquor. When the operation is done, give its product 24 hours to rest, then the oil swims over, and it must be carefully taken out, leaving the perfumed water. Twenty-four pounds of juniper berries is sufficient for one hundred gallons of gin.

To perform the mixture.—The perfumed water must be again poured through a strainer, made of two cotton felts, between which is a stratum, one inch thick, of cotton and wool, to drain into casks on a quantity of rectified spirit, until the mixture gives the degree required

This liquor should then be some time agitated, and poured into waste tubs which will hold some thousand gallons, where it must remain one month at least. so that the composing principles may finish to unite themselves. It acquires the most agreeable perfume and quality in that short time, which, in small barrels, it could only obtain after a very great length of time.

[*Patented Jan.* 31, 1809.

IMPROVEMENT IN MAKING GIN.

BY E. V. FREEMAN.

Take either molasses, cider, English grain or potatoes, distil each or either in the common way. Put low wines or singlings into a convenient cistern; and put to one hundred gallons of low wines three pounds of the muriate of lime, and one ounce of the spirits of sea-salt, add these to the low wines at least twenty-four hours before it is distilled. Having the still-head and worm well cleaned, put the low wines into the still, and then add four pounds of the root called Nardus or Spikenard, half an ounce of American castor, forty grains of oil of amber, or allium succini, and six pounds of juniper berries, and as soon as

the liquor grows warm, put the still-head on and lute it tight, because the flavour of these articles fly off very considerably before the proof of what is to be distilled runs. This must be distilled with a moderate fire. The muriate of lime saturating the non-equous parts of the low-wines, the proof is thrown off in about half the time it usually takes without composition; besides it greatly ameliorates the gin. It facilitates the process of distilling, and lessens the expence thereof.

[*Patented April* 10, 1811.

IMPROVEMENT IN THE HOE.

BY PARDON H. MERRILL.

The plate of this hoe is quadrilateral in its figure; but instead of the eye and wedges of the common hoe, it is fitted with a shank and socket of the same metal with the plate. The wooden handle is inserted into the socket, and made fast by iron rivets. The point of greatest stress or force in using, thus falls in the metallic shank. The wooden handle is high and dry of earth and water in using. All the cumbersomeness of the wedges, and the inconveniences of the interstices between the eye and plate of the common hoe are avoided. And especially, the hoe has a better hang, and the workman a better purchase, by means of a curve in the shank, which causes the end of the wooden handle, as it lies in the hand, to fall somewhat below the upper edge, or back of the hoe.

[*Patented April* 6, 1820.

TO MANUFACTURE CORDAGE.

BY WM. B. LEONARD.

This machine is calculated and constructed to make cords and ropes. Frames are to differ according to the size of cords or ropes made. Motion is communicated to a horizontal shaft, on one end of the same is a fast and loose pulley, giving the first motion to the machine. On the other end of said shaft is a bevelled wheel, gearing into another bevelled wheel on a perpendicular shaft; on the lower end of the same is a pulley or gear, as the case may be. For small cords a pulley will answer, but for ropes it requires a spur-wheel: the pulley or spur-wheel communicates motion to another pulley or spur-wheel, on a perpendicular spindle, passing through a stationary wheel. Said wheel has a hub passing downwards sufficient to receive another wheel or lever; the lever being confined to a post in the frame, holds the stationary wheel. The aforementioned perpendicular spindle, has to it confined a platform sufficiently large in diameter to contain three spindles, placed in sections, each one third the circumference of the platform; on the lower end of the three spindles, are the three spur-wheels, one to each spindle, which gear into three communicating wheels, one to each spur wheel; the said three communicating wheels gear into the stationary wheel revolving with the platform around the stationary wheel, give twist to the straws. Three steps confined to the under side of the platform receive the lower end of the aforementioned three spindles which pass loosely through the platform, and revolving with the same. To the three spindles (just above the large platform,) are confined three smaller platforms, (one to each spindle,) containing the bobbins or reels, on which the yarns or threads are wound, said yarns or threads passing through guides placed at the center, or half the length of the bobbins or reels. The yarns or threads contained on the bobbins or reels of each of the afore mentioned platforms, are divided into three equal parts, passing through grooves to the center and top of the afore-mentioned three spindles at which the threads or yarns are closed, and receive their twist. The aforementioned three smaller platforms contain bobbins or reels sufficient in number to receive threads or yarns enough to make separately one stran of a rope. Three rollers are placed above the afore-mentioned three spindles, around which the strans pass after receiving their twist, in a direct line to the top of the afore-mentioned perpendicular shaft. The said three rollers receive their motion from a communicating shaft, standing perpendicular, on the lower end of which is a spur-wheel, receiving its motion from another spur-wheel, confined to the aforementioned stationary wheel. On the top of the communicating shaft is a bevelled wheel, gearing into another bevelled wheel confined to the end of one of the said rollers. The said rollers being geared with bevelled wheels of equal size all move with the same velocity, and sufficiently fast to draw the strans forward as they are twisted: from the rollers the strans pass through holes formed in a cap, confined to the aforementioned perpendicular spindle which forms a bearing for the same, closing at the top and center of the perpendicular spindle, then forms the rope or cord; from thence it passes over a pulley, directly over the center of the perpendicular spindle, then passing to a roller or reel: said roller confined to a horizontal shaft, laying across the top of the frame, with a spur-wheel on one end, receiving its motion from an endless screw on the aforementioned perpendicular shaft; from said roller the cord or rope passes between a pair of callender rollers, which received their motion from the aforementioned horizontal shaft—the callender rollers discharge the cord or rope complete, which coils itself directly under. If a reel is used,

it will be placed loosely on the horizontal shaft, and wind the rope up as fast as it is made, by means of weights attached to ropes on pullies at each end of the reel. Said pullies receive motion from a horizontal shaft laying parallel with the reels, a fast and loose pulley at each end, a belt from each to the pullies connected with the reel, wind one weight up as the other runs down.

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To apply the above machine for making Cables.

The perpendicular spindle has a stationary wheel, with gearing, (the same as specified for manufacturing cords and ropes,) under the large platform with three spindles passing through the same, and supporting a smaller platform. Under the same are stationary wheels confined to the large platform, which gives motion to smaller gears, as first specified, for manufacturing cords and ropes, the spindles passing through the said three smaller platforms, and each of the said spindles supporting a still smaller platform. The still smaller platform contains the reels on which the yarns are wound, the yarns passing through guides (as first specified for manufacturing cords or ropes,) divided into three equal parts, meet at the top of the smaller spindles, where each stran receives its twist, from thence through the caps of the three main spindles, there closed and forms the horses, each horses passing over rollers (as first specified for cords and ropes) through the cap of the perpendicular spindle, there finishing the cable; from thence the cable is wound on a reel which receives its motion by gears from a shaft laying parallel with the reel, which motion is reduced as the diameter of the cable, winding on the reel, increases by change of wheels.

[*Patented Jan* 9, 1819.

LATHE FOR POWER-LOOM WEAVING.

BY JOHN WHITEHEAD.

In the common power-loom, now in use, the protectors (so called) attached to the lathe, intended to stop the motion of the loom, when the shuttle, from any cause, is arrested in the progress in passing through the warp, is placed on the back side of the lathe, operating on a spring in the front of the same, complex in its form, wanting frequent repairs, and uncertain in its operation. Its complexity renders it expensive, and from the uncertainty of its operation, the lathe frequently continues to vibrate when the shuttle is stationary, in the middle of the warp, breaking many threads of the yarn, and materially injuring the texture of the goods. In the back side of the boxes, at each end of the lathe, into which the shuttle passes, is a slide confined at the end, by a perpendicular pivot, the other end moving in a horizontal direction against the shuttle, so varying its direction as frequently to divert it from its course in the lower part of the lathe or race-board, (so called.)

The object of the improvement is to obviate the foregoing difficulties. 1*st*. By stopping the progress of the loom, in a simple and cheap mode, at all times, when a continuance of its motion would endanger the texture of the goods: and 2*dly*, to give such a direction to the shuttle as to remove a correct movement until the thread is discharged from the bobbin.

In the improved lathe the protector consists of an iron rod, one half inch diameter, about four feet in length, proportioned to to the width of the loom, placed longitudinally at the lower front edge of the lathe, supported by four loops; two of them, one on each side, at the distance of one and a half inch from its center, the other two at each end of the rod. Through the center of the rod, at right angles, passes a bolt, the large end longitudinally under the lathe, and operating as a weight, the other end moving against the lower edge of the breast beam, when the loom is in motion, and against a lever attached to the under side of the breast-beam, when intended to stop the progress of the loom. At each end of the protector is a finger extending perpendicularly, from the rod to the upper edge of the slide; and against which the moving end of the slide protrudes whenever touched by the shuttle, so as to alter the direction of the bolt, clearing it from the lever when the shuttle moves correctly, and permitting it to strike the lever when the shuttle stops in passing from one box to the other. There is a lever at the bottom of the breast beam, confined to the same by a bolt, passing through the beam in a perpendicular direction, and through the center of the lever; intended, when touched by the bolt, to move a spring fastened to the side of the loom, with a handle at top, to move the bolt guide. There is a joint bolt, holding the loom together, and confining, by a notch in the same, the spring conducting the belt guide, so as to retain it in the respective pullies. The object of the belt guide is to change the belt alternately from the loom to the first pulley.

In making the above specification the difficulty of making it intelligible to persons not acquainted with mechanics, will be perfectly apparent. The hope, however, that this description will be readily comprehended by those acquainted with the common power loom, and those who may feel disposed to construct looms on his improved plan.

[*Patented Aug.* 30, 1819.

BREAKING AND DRESSING FLAX, &c.

BY DAVID MELVILLE.

The improvement consists in having cast iron breaks. For the first breaking, so fitted as to be worked like the lathe of a loom, and for a second breaking, a rolling break of iron or other metal, in a cylindrical form, fluted and fitted in a frame of cast iron, so as to run together when turned by a crank; or the whole is applicable to water, steam or animal power, by means of cranks, cog-wheels, and trundle-heads, or by rollers and bands; the application of which is claimed as part of the improvements.

As soon after harvesting as the seed is in a proper state to be thrashed out, the flax or hemp may be broken and dressed without dew or snow rotting, or water steeping.

The flax or hemp must be first well broken in the swinging break, which obviates the necessity of swinging it in the old way, it must then be passed two or three times through the rolling break with as much weight on the lever as the staple of the material will bear, to split, flatten and soften the fiber. When it may be washed in hot water, with soap, exposed on the grass in the sun to dry, by which process it will in three hours be bleached to perfect whiteness, and being again hackled, it is finished and fit for spinning for the finest linens or lace cambricks. The process of washing, &c. may be omitted until it is spun into thread, or woven into cloth, when it may be bleached in the same manner.

The machine is also suitable for breaking the flax and hemp after it is rotted in the usual way, with great facility, and saving both in time and the materials.

Patented Nov. 18, 1813.

IMPROVEMENT IN THE CHURN.

BY WILLIAM L. FRASIER.

This machine consists of an oblong square box to contain the liquid, being twice the width of the dashers, with sufficient room for play. The churn box, is placed on the floor, the frame is composed of one upright standard on each side, with a cross piece on pivots at the top, and the balance beam, through which the dashers move on pins, is permanently secured to the upright standards. The pin holes in the dashers are for the purpose of raising or depressing them, and thereby increasing or diminishing their action.

The turning of the crank, in the center of which the pitman is affixed, sets the machine in motion, by means of its operation upon the balance beam, to which the pitman is secured.

The crank (*d*) deposited in the Patent Office, is calculated for churns of ordinary dimensions, and for that purpose gives sufficient play to the dashers.

The other crank (*f*) gives an increased action to the dashers, and is calculated for large dairies. Fig. 1 slips through fig. 2, confined with a screw, in order to make the dashers move a greater or less distance up and down. The box that contains the milk or cream is covered by two moving lids, through each of which the dashers play. When your butter is ready to take out, you have only to unpin the dashers at the balance beam, remove them and you can slide out the churn box from the upright standards, (to which it is in no way confined) and empty it. The churn box is made with a chime dovetail, with a moving partition in the centre, which may be perforated with holes. *Patented March* 19, 1819.

See Plate No. 2.

a A standard on each side of the churn box.
b The outlines of the box to contain the milk or cream.
c The dashers.
d The crank and handle.
e The balance beam.

N. B. The cream-box slips from between the frame.

TO MAKE PAPER CARPETS.

BY FRANCIS GUY.

Method of Converting Printed Hanging, or plain Hanging Paper into Carpets, so as to form a substitute for Oil Printed Floor Cloths.

Take linen or cotton, cut it to the size of the floor you intend to cover, sew it together. If cotton, wet it; and having pasted the floor all round, (about a hand's breadth from the wash-board, strain it and fix it to the paste. When the cloth thus fixed is dry, lay on it one or more coats of strong paper, and finish by covering with hanging-paper of whatever quality or figure you please, and border the same according to fancy. Center, corner pieces, &c. may be laid corresponding with the border, according to the taste of the manufacturer, or that of his customers. There is no absolute necessity of laying other than the paper which forms the patern of the carpet on the muslin. The coat or coats of strong paper above mentioned, to be between the muslin and the patern of the carpet, is solely for the purpose of strengthening the carpet and contributing to its durability. When the carpet is thus far prepared, and the paste which has been used in attaching the paper and muslin together is quite dry, give it two coats of glue, or such size as is made from the shreds of leather, and used by the carvers and gilders; which glue or size must always be put on as warm as possible; great care must be taken that no part of the pa-

per is left unsized, otherwise the varnish (hereafter described) will sink into the paper and spoil it. When the size thus laid on is perfectly dry, give the carpet one or more coats of boiled oil; and when dry, one or more coats of copal or any other varnish, according to the degree of polish or lustre that may be required. The copal and other varnishes are liable to crack, in which case water or any other fluid may penetrate to the oil, but is prevented from doing any further injury to the carpet, by the oil, which will not only not crack, but prevent either water, or any change in the atmospheric air from affecting the size which separates the varnish from the paper. There is no absolute occasion for any other varnish than boiled oil. The carpet, however, will require more time to dry when covered with several coats of boiled oil, than when partly with boiled oil or copal, or any other quick drying varnish. To floors that are tight, smooth and even, fancy paper, linen or cotton, may be pasted on the bare boards, and will wear extremely well. They are however liable to two objections—the joints of the boards will be seen through them; and should the boards shrink, the paper carpet will break at the joints.

The above carpets are portable, and may be made at the manufactory to fit any room, by taking the dimensions thereof. Those carpets that have many thicknesses of strong paper will require hammering to smooth the joints of the paper. The carpet may be made without the assistance of any kind of linen or cotton, by pasting paper to painted boards: when, by repeated coats of paper it is become strong and firm, it will forsake, or may be separated from the paint, and will be as durable as if mounted on linen or cotton.

The above described carpets may have two faces, or different surfaces, by pasting paper to both sides of the linen, cotton or paper, and pursuing the process above described. Carpets made of linen, cotton or paper, or composed of all three, that are intended for halls, passages, or other places much exposed to wet, should be painted on the under side, and well varnished upon the upper one; the edges should also be bound with leather, or some other strong substance, and well oiled, to prevent water, rain, mud, &c. from penetrating the paste. The paste used in the preparation of the paper carpets, ought to be very strong, (perhaps the best or strongest is to be procured by substituting beer or sweet wort for common water. The paste must be kept free from lumps; and when taken from the fire, stirred until it is cold. Paper used for carpets must have, in the printing or stamping them, sufficient gum or size to enable them to stand the effects of the warm size mentioned above. The papers may be printed in oil for these carpets, by giving the paper a strong coat of size upon the back, which will prevent the oil from penetrating the paper, otherwise it cannot be pasted to linen, cotton, or any thing else: one edge must be left untouched by the oil for a sap, and whitelead must be substituted for whitening in the compound of the colours. Paper thus prepared and printed or stamped, will not require any size between the colours and the boiled oil, as before-mentioned.

When these paper carpets become soiled, they may be cleaned in the following manner:—1st. They must be swept clean, then wiped all over with a damp spunge or cloth; they may then be wiped over with sweet skimmed milk, which will refresh them very much. When they require to be re-varnished, clean them as above, then wipe them with lime water to take off the grease, and varnish them as often as you please. When they are totally defaced, wash all over with a lie of potash, which will destroy the former varnish. They may then be sized and varnished in the same manner as before described, and the colours will be as fresh as when first laid down. Whenever they are removed, they ought (if varnished only on one side,) to be rolled with that side out, to keep the varnish on the stretch to prevent its cracking. The brush for sizing the above carpets, may be like a white-washer's, only thicker, and as long in the handle. The brush to varnish with, should be the size of about three-pound-brushes, fixed to a long handle. It is found by experience that japan varnish is the best for the above carpet. [*Patented Feb.* 23, 1819.

HEAD-OAR FOR STEERING.

BY CORNELIUS SEAMAN.

The manner of fixing said oar, is by having a round perforation in the stern of the boat, and in which is introduced the stern, or swivel of an iron fork, which turns in the round perforation.

The oar is made similar to the oars with which they steer long boats, and the bottom of the fore part of the paddle, is made rounding, to prevent it from hitting against the bottom. Said oar is placed between the prongs of the iron fork, the sides of which rise perpendicularly a sufficient height for that purpose.

The beam of the oar has a shoulder on each side, about the center part, and said shoulders cut against the inner side of the fork, to prevent the oar from sliding outward; but as it is not fixed on a pin within the fork, it may be drawn upwards at pleasure to prevent its touching the bottom in shallow waters.

The above-mentioned oar is worked by

a person standing on the deck for that purpose, who moves it at pleasure, by its turning on the swivel of the forked iron.

[*Patented Aug.* 15, 1817.

IMPROVEMENT ON THE LIFE BUOY.

BY WILLIAM FLOWER.

The Life Buoy or Seaman's Friend, of the usual construction, is a hollow zone or case of leather or other material, which encircles the body, and is secured thereto by straps passing over the shoulders, and between the legs. There is a metallic pipe, with a stop cock so fixed as to allow the wearer to fill the hollow space, which encloses the body with air, by blowing therein from his mouth, and thus rendering the whole body and machinery so buoyant, as to float on the surface of the water for any length of time. The inconveniences experienced with these, arise from the pressure of the zone of air, which bears on the body and renders respiration difficult; the pipe of metal oxydates or rusts and destroys the leather or material. The material of which those in use are constructed are soon destroyed by the action of sea water; and no provision is made for carrying food or drink which may be necessary to sustain life.

My improvement consists in having the zone to fasten on one side by straps and buckles, so that the wearer can give himself as much room as may be necessary for free breathing, by making the pipes of wood, ivory, or other materials that will not rust and injure the texture of the leather in which it is inserted; by using leather for the body of the machine so prepared by varnish, pitch, and other substances of that nature, as to be impervious by the sea water; and which shall render it more durable than without such preparation. And lastly, I make a reservoir capable of containing a bottle, and such quantity of food as may enable the wearer to support his existence for a considerable time.

[*Patented May* 14, 1808.

A VESSEL FOR RETAINING HEAT.

BY JOHN H. MITCHELL.

This heat retainer is a metallic vessel, with double or triple sides, tops and bottoms, or parts thereof, are separated from each other by sensible distances, forming an interstice or interstices containing air or some other bad conductor of coloric, such as silk, wool, cotton, fur, charcoal, &c. and well secured from the access of air or moisture. A tube or opening passes through these various sides, and opens into the innermost compartment, being closely soldered to the sides which it penetrates. To this tube a cork, or male and female screw, is affixed, to confine the contents of the innermost compartment.

When a vessel to retain heat is desired, the sides, &c. must be equi-distant; but when a footstove, plate warmer, &c is wanted, the innermost vessel should be made to splay or slope from below, upwards and outwards, so as to approach the outer vessel at the top, and the tops should either coincide, approach nearer to each other than the sides or bottom do, or contain between them a less imperfect conductor of heat, so that the heat of the contained matter may escape most easily in one direction.

A woollen jacket may be used to cover the bottom and sides; which jacket, when the vessel is used as a foot stove, may ascend from the sides like a bag, and envelope the limbs to a convenient height.

Tin has been found most convenient for the construction of these vessels, both on account of its brightness and lightness where, as in the vessel used for foot stoves, the tube is too small to admit of cleaning the innermost vessel; that vessel should be painted or japanned to prevent violation.

Into this vessel may be put boiling water, heated sand, or any liquid which is to be kept warm, or which is to impart its heat, and the tube being carefully closed, the operation is completed. In a vessel of this description three pints of boiling water will continue warm at least twenty-three hours, and imparts heat externally for six or seven hours. If any thing cool be put into such vessels it will have equal power of keeping it cool.

[*Patented Nov.* 19, 1819.

KILN FOR BURNING LIME.

BY THOMAS POWER.

The foundation of the kiln is about eleven feet front, and nine feet nearly square at the bottom. The inside of the kiln, down against the fire arches, about four and one half foot by three and one half or four feet. This is three feet from the bottom, and is the largest place in the kiln: from this downwards the aperture lessens, like the hopper of a mill, to the size of eighteen inches, one foot from the bottom. There are two doors in the center of the kiln, one on each side, exactly opposite to each other, for the purpose of drawing out the lime. These doors are about fourteen inches square each. The fire arches are three feet from the bottom, one foot wide. There are two of them, one on each side of the kiln, with seven flues each: these flues are constructed between the fires and the inside of the kiln, and are the width of a good sized fire brick. The pillars between each flue are also the width of a fire brick, and the height of nine or ten bricks laid on each other flatwise, and are perpendicular: through these flues the fire passes

to the inside of the kiln. In the bottom of the fire-arches are placed five or six large iron grates, about half an inch apart, to admit the air, to cause the fires to burn freely, and to let the ashes down into the ash-holes under the grates, and which are exactly under the fires on each side of the lime doors, and the bottoms of which are level with the lime hearth. Through each end of the kiln, and level with the bottoms of the flues, are seven holes outside, and exactly in range of the flues across the fires. These are stopped with bricks, to be taken out at pleasure to clear the flues.

The height of the kiln is about eighteen or twenty feet. The inside of the kiln must be lined with fire-bricks,—the wall is double,—the inside wall about the length of a brick in thickness, and the outside wall about the length and width of a brick in thickness, with a hollow space between the walls, of about two inches, which is to be rammed full of wood-ashes, to prevent the air from passing into the kiln, in case the wall should crack, and to serve as a non-conductor of the heat. The inside of the kiln to draw in about three inches on each side, so as to make the kiln about six inches smaller at the top than at the bottom, for the purpose of letting the stones settle down easy. There are to be a number of holes in the front and near sides of the kiln, the size of two bricks flatwise. These bricks may be occasionally drawn out to prove the state of the lime inside, and to punch down the lime stones if they stick fast, and will not settle down of themselves, when sufficiently burnt.

The lime is to be taken out at the lime doors, in the bottom of the kilns, taking care not to draw so much as to let that lime not sufficiently burnt, settle down below the fires. Except when drawing the lime, the lime doors are to be kept closed and pointed, so as to exclude the air.

The kiln is to be filled and supplied with new stones or shells, at the top, and also with fine sifted coal, in proportion of one of stone to ten of stones or shells. The kiln must be bound and secured at the courses by strong iron bars or rods in the manner that air furnaces are bound.

This kiln is calculated to burn lime with a small quantity of wood; and with hard Rhode-Island coal, Susquehanah or Schuylkill coal, or any other termed by the mineralogists anthencite. The coal should be sifted, and should not be larger than Indian corn.

This kiln affords the best method of burning marine shells into lime, proper care being used not to fill the kiln too full, so as not to chock and smother the fire.

[*Patented Jan.* 7, 1817.

FETTERS FOR HORSES.

BY JOSEPH WATSON.

The shackel or concavo-convex ring goes all round the horse's fetter lock, so that it is in no wise liable to chafe or gall the horse's foot, being connected on one side by a joint or hinge, and on the other by a spring clasp; they being closely connected together greatly favours their durability, by preventing the friction of the parts.—The principle wear being on the chain and eye-bolt which attaches the two shackels together; the eye-bolt may easily be replaced into the shackel or ring after the chain or eye-bolt is worn out. They can also be locked to the horse's leg by means of a padlock, without any particular difficulty or injuring the horse, which will in a great degree prevent a thief from stealing a horse which shall have the fetters so locked to him. The above named fetters may be put in the horse's fetter lock with greater facility and ease than any heretofore used, and the advantage of their not chafing or galling the horse's feet, is very obvious, on account of not causing ring bones on horses feet, which are very destructive. [*Patented Jan.* 15, 1818.

ANTI-ATTRITION COMPOUND.

BY EDWARD MOTT.

Take one pound of hogs lard or bears grease, refined, one pound of black lead washed over, dried and pulverised; three gills of vegetable or animal oil, and twenty drops of the essential oil of an aromatic. These respective proportions, or as is hereafter described, the variation of seasons has some influence in the application of the compound, it will become expedient to vary the quantity of the black lead and oil, agreeably to such variation; sometimes to put an addition, and at other times a deduction from the proportions here stated, and then made warm, and all mixed well together, are fit for use.

In some instances the supply of the compound to the part of friction is to be run through a small aperture, in which case it will be necessary to make the compound so warm as to bring it into a fluid state, so as to run through a small hole to the part required. This anti-attrition compound is meant not only as prevention of wear and tear, but a preservative to such parts as it may be applied to, whether cordage, wood, iron, or any other material, whether in use or laid up. [*Patented Oct.* 4, 1817.

AMERICAN CULTIVATOR.

BY FREDERICK MINER.

There is a shaft or beam four and one

half feet long, from the hinder part of the cross beam, two inches by two and one fourth, at each end, at a place where the coulter bolt and post enters the shaft eighteen inches from the cross beam, the size is three inches by two and three eighths, and straight on the underedge, swelling at the coulter bolt and post on each side, and on the top tapering each way to conform to the size of the ends; an iron clasp on the forward or draft end, with several holes through the clasp and shaft, to receive a small iron pin; on which draft end is a clevy fixed horizontally, about seven and one half inches long from the bow to the clevy pin, by which the machine is drawn and regulated by the small iron pin in the holes of the iron clasp, by placing the pin in different holes will raise or depress the motion of the machine at pleasure; the small iron pin is secured by a little wire chain and staple to the shaft. There is a cutter made of wrought or cast iron; but wrought iron is much the best as it is much lighter for the strength, and being plated with steel on the upper side, will hold a better and more lasting edge. Said cutter is in the shape of an equilateral triangle of eighteen inches each way, and plies horizontally, the hinder part hollowed something in the shape of a swallow tail, leaving a wing on each side three inches wide, projecting back; a little behind a right line with the hinder part of the post: in the center of said hollow, is a stout foot projecting back about three and one half inches, with a mortice to receive the tenon of the foot, with a heel turning up behind the said post, and a strap attached to the cutter just forward and close to the post, through which passes two headed bolts, the lower one passing through the strap post and heel, the other through the strap and post with thumb screw nuts behind the post which fastens the cutter to the post; the post is eleven inches long from the foot to the shaft, and is secured to the shaft by mortice and tenon going through the shaft, and fastened with a forelock pin; and supported by a brace from the hinder part of the post to the shaft; the forward part of the cutter is supported by a headed coulter bolt, passing up through the cutter, and through the shaft three and one half inches before the post, fastened with a thumb screw nut on the top, to which is attached a sort of harrow or drag, the beams of which is about two feet ten inches long, containing in each side, at proper distances, four or five iron teeth, and supported by a brace a little forward of the hind teeth: size of the teeth from five eighths to six eighths of an inch square, sloping back about their width; the two hindermost teeth drag one inch without the wings of the cutter on each side: the size of the harrow beams about three inches by two and one half, plying edgewise; the whole harrow is made fast to the post about four inches below the shaft, secured by a headed bolt and nut through the head of the harrow and post; the teeth to reach about one inch below the bottom of the cutter at the heel, which cutter inclines a little at the forward point. There are two handles of proper length, with nibs at convenient height; the handle set into the harrow beams fourteen inches behind the post, secured by tenon and mortice, and close pinned, the handle receives and is secured to the ends of the cross beam; which cross beam intersects and receives the hinder end of the shaft, and secured by mortice and tenon, the tenon going through the cross beam and fastened with a forelock pin; ten inches above the cross beam is a round bar from one handle to the other for support, to which is formed a pair of shifting moulding boards, fastened together at a close mitre between the post and coulter bolt, and capped with iron: which boards sit on and against the outside of the harrow teeth, leaving the points of the teeth one inch below the edge of the boards, and sits close to the under side of the harrow beam, so that the harrow beam and boards are flush on the outside, and is secured to the harrow by a chock fastened on the inside of each board, through which a headed bolt passes up through the harrow beam, and fastened with a screw nut on the top.

But the moulding boards are not necessary but when a hill is desired, and may be taken off and put on at pleasure, by taking out the coulter bolt, and the bolts that secure the boards to the beams of the harrow; and the boards slide off forward without any difficulty.

The use designed for the above described machine is the cultivation of corn, potatoes, beans, or any thing that is planted in rows or drills, or broad cast; and is found by actual experiment to be particularly useful in tilling corn and potatoes, &c. where the rows are made to go both ways at right angles. The machine passing through the rows each way, leaves but very little for the hoe to do.

This machine is calculated to be drawn by one horse; though the machine may be enlarged so as to be worked with two horses, or with oxen. In lieu of the coulter bolt in the above described machine, there may be instituted a steel edged cutting coulter, but I apprehend the advantages are not equal to the disadvantages of expence and heft. [*Patented Aug.* 21, 1819.

See Plate No. 3.

Is a horizontal view of the machine, with the moulding boards attached, shewing the points of the teeth a little below the boards.

CIRCULAR OPEN STOVE OR FIRE-PLACE.

BY RICHARD BERRIAN AND FRANCIS CLASS.

1st. We make a round grate, or it may be a polygon of any number of sides, of cast or wrought iron. This grate is placed in a concave or circular bottom or hearth, with a hole in the center, through which the ashes pass into a box below, fitted to receive the same.

2d. We make a cylindrical chimney of sheet iron, through which the smoke is to pass, or it may be made of any other figure. This chimney or hollow cylinder is supported by iron pillars outside, passing through flanges, and is made fast by screws.

3d. Inside of this hollow cylinder is another hollow cylinder, which is made to work up and down by weights and pullies, or by means of rack work, and is for the purpose of closing over the fire so as to increase or decrease the draft, as occasion may require.

4th. Immediately over the grate is a loose cross back, divided into three or more parts, as a guard to prevent the smoke from coming into the room by means of the current of air.

5th. On the top of the hollow cylinder is a hollow cone, to which is connected the pipe for carrying off the smoke. The advantages of this improved circular open fire-place, are, *1st.* It can be placed in the middle of the room, and of course will distribute the heat and light equally on all sides, so that the whole company may sit around it face to face, to converse. *2d.* It is a great saving of fuel, because the whole heat is expended in the room, and not in the walls and up the chimney. *3d.* The draft can be increased or diminished at pleasure, so as to prevent smoking.

See Plate, No. 4.

a Represents the Circular Bottom or Hearth.

b The two Pillars for the top to rest on.

c The Circular Top.

d A Circular Flange within the top, which by rising and falling causes a draft.

e Are Screws, attached to the Circular Flange to support it when raised.

f Is a Guard or Cross Back to prevent the air from carrying the smoke into the room.

g Is a Circular Grate.

h Is the Pipe to carry the smoke off.

A SUBSTITUTE FOR INDIGO BLUE.

BY SAM. DE REIMER.

To three pounds of Indigo root, add three pounds of madder, and six pounds of maple bark. Infuse the same in three gallons of rain water, boiling it for two hours. Then strain the same through some Bolting cloth, into a mill or potash kettle. Add thereto four ounces of copperas, two ounces of blue vitriol, half a pound of gum seneca, and one quarter of a pound of Prussian blue, which is to fix the colour. When these ingredients are well ground together in the mill pot, stir in as much magnesia as will reasonably thicken the same. Then place it to dry in the pans, which, when dried, will be in cakes producing a complete blue composition, useful for colouring, dyeing, or painting.

[*Patented May* 15, 1808.

IMPROVEMENT IN THE WATER-LOOM.

BY THOS. MUSSEY.

Being an improvement on a water-loom invented by him in 1808, and patented to him in March 1811; many of which improvements he adopted and put in practice soon after obtaining his patent. The frame consists of four posts connected by two horizontal pieces and four circular braces, which constitute the two sides, these being also connected by four cross bars; those at top serving for back and breast beams, while those below are attached to a piece running horizontally under the treadles, and serve to confine and support them and the frame; according to a model of wood deposited in the Patent Office, intended more fully to illustrate the principles. Should it be found in practice more convenient or economical to make the frames of iron, the sides may be cast whole, with proper fixtures to attach and detach the machinery.

The first motion is communicated to the loom by a pulley or whirl of cast iron, operating as a balance, of a size adapted to the power and velocity required. The pulley is attached to the first and second wheels, by a sliding fork, or gearing iron, which passing through the pulley, locks to a cross on the arbour of those wheels, and is common in gearing and ungearing many kinds of machinery.

The second wheel is eliptical, having its gudgeon, or center of motion on one of its foci, and plying a third wheel of the same form and dimensions, whose arbour passes quite across the loom, and has a crank on the opposite end, rounding with a stud on the wheel, by the aid of which, and two pitmen, are alternately accelerated, and retarded motion is given to the lay. This motion may be varied according to the nature and number of the eliptical wheels. The fourth wheel is on the main arbour, and is twice the diameter of the first wheel by which it is driven, causing the main arbour to revolve half as often as the crank arbour.

On the main shaft are two shuttle driving arms, one at each end, standing in opposite directions, to drive the shuttles from one side of the web to the other, in the act of weaving: and for plain cloth, two treadle wipers or cams near the middle of the arbour, to move the harness; but when twilled or figured cloth is to be woven, then another shaft is to be added. The speed and number of wipers or cams of which must conform to the nature and variety of the work.

The shuttle driving arms act with the accumulated power of the fly or iron pulley, on the shuttle, driving knees, which, being connected by two toggle joints with the vibrating elbows of the pecking arms, give motion to them and the pecking arms, which passing up through the slits in the race-board of the lay into the peckers, and by alternately acting on them, peck or drive the shuttle from one box to the other. The lay which is inverted, guides the pecking arms by two slits in the race boards, running parallel with, and near the center of the boxes, the peckers sliding in grooves in the sides of the boxes, which may be made of metal, or whatever is most durable. The pecker may be made of raw hide, or firmly tanned leather. The ends of the pecking arms which enter the pecker, are strapped with tempered or case hardened metal. The ungearing principle consists in a rod or wire attached to the underside of the race-board, and so fitted at each end as to pass into the boxes, where, by the motion of the shuttle, the lay is made to govern the loom; that is, the rod or wire is furnished with a hand, near the middle of the lay; which hand rises or falls by means of the shuttle, as it enters or leaves any of the boxes, and occasions the loom to progress or slot, as the case may be; for when the hand falls, it catches in a notch in one end of an elbow joint, the other end of which is attached to the ungearing slide, so that by a small advance of the lay the fork is drawn which attaches the pulley to the first wheel, and the loom is thrown out of gear: but this only happens when the shuttle is interrupted in its passage, for, while the shuttle continues to pass freely through the web, by arriving in either box, it raises the hand clear off the notch, and the loom continues its motion until it is stopped by the force of the lay in closing or beating in the filling, which may be apportioned to the warp with the greatest accuracy, by a pressure against that part of the yarn beam which contains the yarn, which may be effected by a piece of wood, or any thing that is so hard and smooth as not to injure the yarn lying parallel with the beam, on which the yarn is wound, and pressing against the yarn by springs or weights; the latter of which is preferable, in as much as they may be made to operate uniformly under every size of beam, as may be seen in the model.

There are three rollers placed under the breast beam. The cloth as it is woven, comes over the breast beam, passes in between the first and second rollers, and comes out between the second and third, taking a half turn round the middle roller; which middle roller, having pullies at each end, with bands, belts, or cords passing round the main arbour, is made to revolve between the two other rollers, which being pressed together by springs or weights, serve to callender and glaze the cloth as it is woven, and at the same time to keep it tight in the loom. This effect may be produced with two rollers, or more than three, but three may be considered the most convenient number. Under the rollers may be placed a box, basket, or any other suitable thing to hold the cloth as it falls down; from which it may be cut into pieces of any length at pleasure. The upper ball of the lay, or that part which comes down upon and secures the reed, is made to project forward of the reed about ½ or ¾ of an inch, making an angle downwards, close upon the web, when it is open for the shuttle to pass through, so as to intersect the line made by the upper surface of the slay-board on which the shuttle slides, at the edge of the cloth. The shuttle being made so as to fit the space between the upper ball and slay-board, runs partly in a dovetail groove, in passing from one box to the other, which prevents the possibility of its flying out of the web in going at any speed. Each loom is furnished with two or more shuttles, that the weaver may replenish one with a bobbin while the other is weaving. And the bobbins are secured in their places by a small groove in each head, which falls into an iron made fast in the shuttle. Whenever wheels are mentioned in this specification, cog wheels are the kind of wheel intended.

The object of the invention in the preceding improvements, especially in the application of eliptical cog-wheels to accelerate and retard alternately the motion of the lay, which he verily believes to be the application of a new principle in practical mechanics, is to secure to himself the exclusive right to manufacture by water, steam, or other power, not manual, all wide cloths, such as sheets of full width, and especially broad cloths, or woollens of double folds, which require a long run of the shuttle, and to which those improvements are peculiarly adapted.

[*Patented June* 10, 1817.

IMPROVEMENT IN DISTILLING.

BY JAMES CAZE.

I build two furnaces, one by the side

of the other, in which are fixed two copper boilers. At the top of each there is a head with a cock above the furnaces, between the boilers; a copper column of a cylindrical form is laid on the massy part, the height and diameter are calculated for the capacity of the boilers—the heads of the boilers have their issue at the foot of the column. A double evaporator, or helixes is fixed in the interior of the column. These helixes are of the form of a double screw, and are made by chamfering copper plates, with holes bored through them, and soldered round a pivot or tube in the shape of a screw. These are called helixes, to distinguish them into large and small; the large ones fill up completely the interior part of the column. The pivot or tube on which they are soldered is hollow, and about one third of the diameter of the column. In that tube is placed the small helixes, which are soldered on a tube of one third of the thickness of their diameter; the orifice of the column is shut up by a copper plate, as far as the circumference of the tube of the large helixes this part remains open; at the top of that tube, and under the plate that shuts up the upper part of the column, in all the circumference of the plates of the large helixes, a tube is placed open at both ends, in shape of a T, with the pivot of the small helixes, to which the upper part is adapted, going through the large helixes. At the foot of the tube of the small helixes is fixed a concave copper plate, which is shut up at the bottom of the pivot of the large helixes; that pivot ends by a double elbow tube of a small diameter, which extends to the bottom of the interior of the column. The upper part of the column is surmounted with a head which is adapted to a worm, placed in a copper-box, which is called the beer-heater. This beer heater is so placed, that its lower part is above the column, at its orifice. There is a funnel to which a tube is fixed, at some inches from its bottom; a bended tube is placed above the beer heater, one of the ends enter a few inches into it, and is immersed in the beer which it contains, the other goes through and is adapted to one of the turns of the worm, a few inches above the beer heater; and on one side is placed a tube, which has an elbow in its lower part, with a cock, which is adapted to the upper part of the column, and ends on the large helixes. At the bottom of this vessel is fixed a tube with a cock, which is adapted to the lower part of the tube *trop plein*.

The tubes attached to the worm turns are called the retrograde pipes of vapours, which go throughout the beer-heater at the exterior, fitted with cocks. These tubes meet a perpendicular tube which goes through the head at the top of the column, and meets on the small helixes. On the upper part of the beer heater is a small cock, and at the bottom another. Under the beer-heater there is a water tub, and at its orifice is placed a condenser which has the shape of a spitting box; one of the extremities at the end of the worm is immersed in the beer-heater through which it goes, and is adapted to this condenser. Another worm is placed in the water tub, the upper end of which is likewise adapted to the condenser, and the lower end goes through the inferior part of the tub. The bottoms of the boilers are supplied with large tubes with cocks; two tubes with cocks adapted to the columns under the heads of the boilers which go into them; then a small tub is placed in front of the furnace, between the boilers; this tub contains a small worm, communicating by its upper part to the boilers, by means of two tubes with cocks.

Directions to use the above Still.

Fill up with liquid one of the boilers, (say water) which is set in ebullition by the power of the fire in the furnace; the beer to be distilled is carried into a tub or reservoir, fixed above the orifice of the beer-heater; this tub is filled with the liquid intended to be distilled, by means of a tube and cock adapted to the reservoir, which carries the liquid into the funnel of the beer-heater, the liquid discharging itself by the tube *trop plein*, and is carried to over-run the large helixes, extending itself over the surface of the copper plate in the form of a double screw, running the way which is traced out by the helixes in turning round the pivot, and is stopped in its course by the chamfering made on the plates of the helixes, and at last falls into the bottom of the column, after having lost in its fall all the spirits which it contained. From the bottom of the column it is carried by a tube into the boiler which is not in operation. The spirituous vapours that have ascended by the large helixis through the tube, in the shape of a T, communicate

with the tube or pivot of the small helixes; coming to the bottom of the tube they meet a concave copper plate which forces them back through the small helexis to the head at the upper part of the column, to the worm immersed in the beer-heater, where they begin to condense, and then from the condenser to the lower worm, and lastly, to the recipient. The object of the two boilers is this,—one being filled with liquid in the beginning of the distillation, gives out steam which analizes the beer running on the helixes; the other boiler in the mean while receives the returns, and when full, the one in operation is emptied, and then in its turn receives the returns, and the other furnishes the steam, and *vice versa*, in the system of the continued distillation. Some only use one boiler, the returns which fall by the helixes, are driven back through the *trop plein* tube. In many instances the workman appointed to attend the fires, neglects that part, and the returns are thrown out of the boiler containing some spirituous parts. By this system the returns are secured in the second boiler, and they are not let out until ascertained that they do not contain any spirit, which is known by shutting the cock at the head of the boiler, which conveys the steam into the column, and by this operation compels the vapours to come into the worm which is placed in the small tub set in front of the furnace, between the two boilers, which is ascertained by opening the cock of the tube which communicates from the boiler to that worm. The addition of the small helixes, where the vapours are forced back, are intended to analize more completely, and increase the proof of the spirits. The concave copper plate, fixed at the lower part of the pivot of the small helixes, repel the vapours which fall by this tube, and force them to take their way through the small helixes. The double elbow tube being part of one of the large helixes which is at the lower part of the column, that elbow being constantly full of liquid, prevents the condensing of the spirituous vapours at the bottom of the column, which get in through the tube of the small helixes. The beer-heater receives the beer out of the reservoir, where it is heated by the vapours which come through the head of the column in the worm immersed in the liquor of that vessel. The tube of the funnel carries the cold beer to the bottom of that vessel, by which the heated beer is forced to ascend to the orifice. The tube *trop plein*, carries the warm beer in the column on the helixes. The elbow at its lower end being always filled with liquid, prevents the vapours which are in the column from taking their course through that tube. The bended pipe placed at the top of the beer-heater, having one of its ends immersed in the beer, and the other adapted to one of the turnings of the worm which is in this vessel, carries the vapours of the heated beer into the worm. The little cock at the top of the beer heater shews when that vessel is sufficiently full of liquid. The pipe fixed to its bottom, and adapted to the tube *trop plein*, is to empty that vessel entirely; the cock fixed to its bottom is to clean it out. What is called retrograding pipes, is what operates on the strength of the spirits, which is done by opening the cocks of the pipes, and the spirits which are in the worm immersed in the beer-heater, is carried through the tube where the pipes come to on the small helixes, where it goes through a more complete analizing. The condenser which joins both worms, effects a complete condensity of the vapours, and the liquor is received from the lower worm at the temperature of the liquid in which it is immersed.

Improvements by James Caze.

The system of the preparation for the continued distillation, was invented in France by Mr Baglioni, and has been imported into this country. It is now in operation in his distillery at Brooklyn, L. I.

He claims the following applications:—That of a second still (boiler,) and that of the small helixes; that of the pipe in shape of a T, at the top of the great helixes; that of the concave copper plate; set at the lower part of the small helixes; that part of the double elbow pipe at the lower end of the tube or pivot of the large helixes; that of the beer heater and all its dependencies; and finally, the condenser which joins both worms.

See Plate No 5.

a Boilers.
b Column.
c Large Helixes in the column *f*.
d Pipe in the shape of T, and tube or pivot of the small helixes *f*.
e Tube or pivot of the large helixes *e*.

f Small helixes on the pivot of the helixes *c*.

g Concave copper plate at the lower end of the pivot of the small helixes *f*.

h Double Elbow Tube at the lower end of the large helixes *c*.

i Returns of the distillation, at the bottom of the column *b*.

k Pipes which carry the returns in the boilers *a*.

l Heads of the boilers which carry the vapours in the column *b*.

m Pipes which carry the vapours in the worm *o*.

n Small tub set in front of the furnace

o Small proof worm in the tub *n*.

p Copper plate which shuts up the orifice of the column *b*.

q r Head at the top of the column *b*, which comes to the worm *s*.

s Worm immersed in the beer-heater *w*.

t Continuation of the worm *s*, which comes to the condenser *u*.

u Condenser above the tub *x*, joining in the worms *s* and *v*.

v Worm in the tub *x*.

w Beer-heater.

y Tub or reservoir for the beer *t*

z Pipe of the beer reservoir *y*.

1 Bended pipe above the beer-heater *w*, which comes to the worm *s*.

2 Funnel with its pipe, on the top of the beer heater *w*.

3 Cover of the funnel 2.

4 Tube *trop plein* which carries the beer out of the beer-heater on the helixes *c*.

5 Tube at the lower part of the beer-heater *w*, which empties that vessel into the *trop plein* 4.

6 Retrograde Pipes, being part of the worm *s*, and joined to the perpendicular tube 7.

7 Tube which carries the vapours of the worm *s* on the helixes *f*.

8 Tubes with fixed cocks in the bottom of the boilers *a*.

[*Patented March* 18, 1819.

TIDE AND CURRENT WATER-WHEEL.

BY SAM. MOREY.

For Driving Mills or Machinery, with or without dams.

It consists of a simple wheel, with at least eight floats, placed in such a manner, that the water may enter the wheel on one side in a column, equal in breadth to half its diameter, with a depth of that of the length of the floats, passing out in every direction, except where it enters, acting constantly on nearly every float of the wheel to drive it round. The wheel may be constructed wholly of wood, and in the following manner: —a shaft and gudgeon as usual for a tub wheel; near the lower end of which a circular platform is fixed, made of boards or planks of the diameter of the intended wheel, say six feet. A circle is then struck off, about four feet diameter, or two thirds of that of the wheel, which is divided into eight equal parts; one foot of the compases is then set to the first division, and the other turned round, say to the left, to the periphery of the wheel, a line then drawn from one foot to the other, gives the position and surface of the lower end of the bucket. The rest are all set out in the same manner. The other ends are supported at top by a rim, resting on four or more arms, about nine or ten inches wide; a screen is placed to cover the returning side of the wheel, at an angle of about forty-five degrees, to screen that side, and direct the water into the other side, when the floats receive it on nearly parallel lines; but in attempting to pass out, it meets the floats at nearly a right angle, a part passing out by each float, and the rest pushing farther round in the wheel to the screen, or where it first entered, constantly pushing the wheel round by its gravity, as well as by its re-action in passing in and out, against the floats. A wheel of that size with floats six feet long, will furnish, in a current of four miles per hour, power sufficient to turn a grindstone three feet diameter, for grinding, or will do the work of from one to two men, while at work. This size need only be made of boards.

The floats should be rounded off on the back side of their edges, that they may enter and pass through the water more readily. Planks or boards should be placed by the side of the wheel to keep the water from passing by it when thrown that way by the screen. The same rule may be observed in laying out a wheel of any size from one or three feet diameter, to those of sixteen or twenty. Wheels of twenty-four feet diameter may have twelve, and those of thirty two feet, sixteen, all set out by the same rule, that is, let the width of the float be the same as the distance from each other on the circle, two thirds the diameter of the wheel. If the wheel is designed to be driven by the flood at ebb tide, then it will require a screen to

direct the water into the wheel at flood tide, on one side, and into the other on the opposite side, as it returns, or at the ebb, thereby causing the wheel to run constantly the same way, except a short time at high and low water. The deeper the wheel can be sunk in the water the better, when driven by the tide or current the more powerfully it will act. The slower the wheel moves the more powerful it will work, and the required velocity is acquired by gears, as usual. A convenient mode of building them, will often be by a pier wharf, extended as far as may be into the current, leaving openings, one after another, for placing in wheels, designed for any mechanical purpose. Each wheel in this way, increases the power and value of all the others. In streams where there will be danger from ice or floating timber, the wheels require to be protected by a rack, or by having the wheel run wholly under water, at low water mark.

For a saw mill, with a head and fall of eight feet and upwards, a wheel of three feet diameter, and floats about four feet eight inches long, will be sufficient, having a space between the floats and shaft of about six or eight inches, for the water to pass. The water should be dropped or pitched into the wheel, at least as high as half way up.

For a grist mill a three feet wheel will be large enough, with the floats one foot long; when the head and fall are twelve feet or upwards, that part of the shaft which passes through the wheel, should be only about six inches diameter; above the wheel it should be large enough to support the runner, as usual. The advantages of these wheels are, that at a small expence they may be placed in any current, to drive mills or machinery, with or without a dam—present a much greater surface for the water to act upon; having also the advantage of running the same way at flood and ebb tides. May also be applied to a head and fall of water, and make a great saving in the quantity used. Are more simple in their construction, and are less obstructed by back water than any other. Have the advantage of running and working in a perpendicular as well as horizontal position, and are cheaper and easier made, and require no seasoned stuff or iron work.

[*Patented March* 13, 1817.

BLOWING ROCKS UNDER WATER.

BY JOHN M. SYME.

The model of this invention as deposited in the Patent Office, exhibits a wooden block with a hole bored partly through it, representing a rock under water, bored with an iron drill or borer such as is commonly used for boring rocks.

The largest tube represents a tube to be made of lead or any thing most desired, with one end closed, in order to render it water proof at that end. It is to be open at the other end when the stopped or water proof end is inserted into the water, and thence into the hole in the rock, the water will be excluded from the hole in the rock, or so much thereof as the size of the tube, which is to fit the hole in the rock as near as possible. After the water proof end of the tube is inserted into the rock, the powder necessary for blowing the rock is to be poured into the tube at its open end. Great care having been observed to keep this open end always above the surface of the water to prevent the least particle of water getting into it. After this has been done, the smaller tube made in whatever way it may be desired, and open at each end, is to be placed in the larger tube, and of a length sufficient to reach the powder in the bottom of the large tube with one end, while the other shows itself at the top of the large tube.

There is an iron spindle with a ring or loop at one end, fitting the hollow of the small tube, and something longer. This spindle is to be inserted into the hollow of the small tube so as to reach its bottom, and like it come in contact with the powder at the bottom of the large tube. The intention of placing this spindle within small tubes, is that when the wadding or cramming commonly used in loading the rock, is cramming down in the large tube on all sides of the small one, the small tube shall be kept entire; when the wadding or cramming is sufficiently forced into the bottom of the large tube upon the powder therein placed, (as above stated) so as to cause the large tube to be so extended, as to fill the hole in the rock perfectly tight in every part to the surface of the rock. Then the iron spindle is to be extracted, thereby leaving the hollow of the small tube vacant to be filled with powder, which will communicate when put into a small tube, with that first put into a large tube, and be ready for blast.

There is a small block with a hole through it, answering as a buoy to slip over the tubes at the time a blast is to be made. This buoy answers two purposes, the first to rest your slow match on, the second to facilitate the recovery of the tubes after the blast is made.

There is also a heavy substance with a hole through it, with or without handles; this is to facilitate the progress of blowing the rock in rapid, muddy, or deep water, by placing the substance on the rock to be bored, placing the point of the drill or borer into it, the entry by the borer is more readily made.

The drill or borer for making the hole in the rock is such as is commonly used, and of any length desired.

The ramrod for loading is as usual, also of any length desired.

The same tube will answer for many blasts, it being recovered by the aid of the buoy as above stated, and only split immediately where the powder rested in it. Then by cutting that injured part of it, it may be rendered water proof again. Thus applying it to the shallower water as it shortens. The ends so cut off, may be run over again, and thus the only loss in your tubes will be that quantum of metal usually lost in melting [*Patented Dec.* 12, 1816.

See Plate No. 6.

a The Rock.

b The Guide for the borer.

c The Drill or Borer.

d The part that is bored in the rock.

e The Main Tube that is introduced into the part bored.

f The Small Tube introduced within the above

g The Spindle that is introduced in the small tube.

h The Rammer to load with.

i The Buoy for receiving the tubes after the blast.

k The Keg that fastens the buoy to the main tube.

HUMANE FIRE MACHINE.

BY EPHRAIM PAINE.

Place a pulley fast, and near the top of the chimney, through which reeve a small wire or chain, connected to a windlass just above the mantle piece, which remains ready for an emergency; to which wire or chain, attach a line, in an instant, by turning the windlass; it is reeved through the pulley at the top of the chimney, by which line a fire-bucket, with a small forcing pump in it, may be raised, and worked by hand, or assisted by a windlass placed in the fire place, so as to extinguish it instantly. In like manner, is elevated scrapers, scraping brushes and brooms, and worked by a servant, not more than twelve years of age, and every danger of fire is prevented.

The broom is made of oak or hickory, with whisk, bristles or iron scrapers connected, made like other splint brooms, only larger and longer brushes, in proportion to the chimney; and some made more elastic, by whale bone; others have brushes and scrapers, on elastic splinters, like a double broom. The whole apparatus, need not exceed ten dollars expence, and will last many years. The improvement is so evident, that further comments are useless, to shew how far it exceeds humanity and usefulness The present mode of chimney boys, or any method of elevating machinery from the hearth, some of which I have tried, and found them too complicated and expensive. The cleansing apparatus may be introduced into the tops of chimnies when deemed necessary.

A ROD TO MEASURE PACKAGES,

And to ascertain their cubic content, by a new application of figures. Also, a New Method of Applying Figures on Rods or Measures, intended to measure the dimensions of any thing when multiples or parts of said dimensions, more or less of any given quantity, are required.

BY DAN. STANSBURY.

Having suffered some inconvenience in ascertaining the cubic content of packages in order to know the value of the freight, and finding the two methods generally used to be both objectionable. One of which, the most usual, is to measure the package to the nearest inch, then to refer to a book containing at able of dimensions extended to every inch, and to take out by inspection the corresponding cubic content: the other method resorted to by those who require greater accuracy, is to divide the rod into feet and hundreths, instead of feet and inches, and to maltiply together the dimensions taken with it, which produces the cubic feet and decimals contained in the package: this, though it may be sufficiently exact, is too laborious.

To combine perfect accuracy with the least possible trouble, I invented and used a new application of indices or logarithms. I caused a rod to be made similar to those in common use, except that the callipers were upon an improved plan, with a view to preserve them as much as possible parallel to each other, and perpendicular to the rod. I marked at each division of its length, artificial numbers, each number being one third of an unit more than the index or exponant of that power or root, which the length of line, where the number was marked, is of 10 feet. By which arrangement the numbers became the logarithms of the natural lengths where they were placed, differing from the common logarithms in having the logarithm of 1 placed at 4.64159 feet in place of 10 feet and the logarithm of 0 at .464159 of a foo in place of 1 foot: by this change the dimensions of most packages fall between

and 1: and as I used but three places of decimals to the logarithms, all such dimensions have but three figures: as it will seldom happen that any dimension will fall below 0, the frequent use of negative numbers is avoided.

I constructed a table, and put it on the rod on which all the logarithms, from 0 to 1, to three places of decimals, were arranged to their natural numbers, to four places of figures Since each number on the rod is one third of an unit more than the common logarithm of the dimension where it was marked, the sum of three numbers is an unit more than the logarithm of the cubic content of said dimensions; hence, the natural figures taken out of this table, are to be valued by estimating as many of these whole numbers as there are units in the index; the rest are decimals.

To use the rod now described. Measure the package or thing (the cubic content of which being required) in the usual manner, and take off the artificial number each dimension extends to; add the three numbers together, rejecting the thousands (units in the index) if there be any: find the other three figures of the sum in the outside argument of the table, and the corresponding natural number will be the cubic content in feet and decimals, estimating as many figures to be whole numbers as there were thousands (units in the index) rejected.

My method of applying logarithms or indices of powers or roots, to lines or measures, differs entirely from the method invented by Mr. Gunter; in his scale the divisions, and their differences are decreasing; in mine, they are both increasing. His scale is marked at each division with natural numbers; the logarithms of which express the length of lines where they are marked. My scale is marked at each division with logarithms, the natural numbers of which, express the length of line where they are marked.

On his scale the divisions are not the actual measurement of any thing, they are the ratios of the numbers marked on them, one to another, having a relative value, a small division may represent a large quantity, and hence a want of accuracy in the construction or use of it may occasion a considerable error. On my scale the divisions express the actual measurement, each one representing so much real length; hence a want of accuracy in the construction or use of it, can occasion no greater error than a want of accuracy in the construction or use of any scale or rule whatever to measure the dimensions with.

My method may be applied to the construction of guaging rods for measuring boards or timber, or any rods where multiples or parts of the dimensions, or of the dimensions, more or less of any given quantity are required

If a rod be required to measure any dimension that is intended to be raised to any power, or multiplied by any constant quantity, let the number at each division be the logarithm of the lengths multiplied by the index of the power, or increased by the logarithm of the constant multiplier. Or if a rod be required to measure binominal dimensions; that is, such as are to be taken more or less of any given quantity, and these raised to any power, or multiplied by any constant quantity, let the rod be made shorter or longer by said given quantity, before the line of numbers commence, and the numbers as before be the logarithms of the length multiplied by the index of the power, or increased by the logarithm of the constant multiplier. Thus, suppose it were required to make a rod to measure a cylinder outside, the staves and heads of which were each an inch thick, if the fixed calliper were made to unfix and move two inches outside of the place whence the line of numbers begins. If one line of numbers were marked at each division, with double the logarithm of the length in inches more the logarithm of .7854, then will the number taken off at each division the diameter extends to, be the logarithm of the area. If another line of numbers be marked on the same rod, or on another rod at each division with the logarithm of the length, less the logarithm of 231, then the logarithm taken off at the place the length of the cylinder extends to, will be the logarithm of such length divided by 231, hence the sum of the two numbers taken off these two lines of numbers in measuring the cylinder, will be the logarithm of the gallons in the cylinder.

Scale for Making the Improved Measuring Rod,

In which the first column contains the numbers marked on the rod; the second column the distance the division is from the fixed calliper in quarter inches and decimals; the third column contains the differences between the numbers of the second, which is the length of rod occupied by 20, 10, or 5 numbers, as the case may be; and the fourth column contains the difference between these differences, which is the increment by which each division of 20, 10 or 5 numbers exceeds the preceding one:—

No	*qr. in.*	1 *dif*	*dif*	*No.*	*qr. in*	1 *dif*	*dif*
9700	11.166			9880	16.901		
		526				796	
720	11.692		25	9900	17.697		38
		551				834	
740	12.243		27	920	18.531		40
		578				874	
760	12.821		26	940	19.405		40
		604				914	
9780	13.425		28	960	20.319		44
		632				958	
800	14.057		31	980	21.277		45
		663				1003	
820	14.720		31	0	22.280		16
		694				519	
840	15.414		32	10	22.799		
		726					
860	16.140						

No.	qr. in.	1 dif	dif
20	23.330	531	12
30	23.873	543	13
40	24.429	556	13
50	24.998	569	13
60	25.580	582	14
70	26.17	596	14
80	26.786	610	14
90	27.410	624	14
100	28 048	638	16
110	28. 02	654	14
120	29.370	668	16
130	30.054	684	16
140	30.754	700	17
150	31.471	717	16
160	32.204	733	17
170	32.954	750	18
180	33.722	768	17
190	34.507	785	19
200	35 311	804	18
210	36.133	822	20
220	36 975	842	19
230	37.836	861	21
240	38.718	882	19
250	39 619	901	22
260	40.542	923	22
270	41.487	945	21
280	42.453	966	23
290	43.442	989	23
300	44.454	1012	23
310	45.489	1035	25
320	46.549	1060	24
330	47.633	1084	26
340	48.743	1110	25
350	49 878	1135	27
360	51.040	1162	27
370	52.229	1289	27
380	53 445	1216	29
390	54.690	1245	29
400	55 964	1274	29
410	57.267	1303	31
420	58 601	1334	31
430	59 966	1365	32
440	61.363	1397	33
450	62.793	1430	32
460	64.255	1462	35
470	65.752	1497	34
480	67.283	1531	37
490	68.851	1568	35
500	70 454	1603	38
510	72.095	1641	39
520	73.775	1680	38
530	75.495	1718	41
540	77.252	1759	40
550	79.051	1799	42
560	8 .892	1841	44
570	82 777	1885	43
580	84.705	1928	45
590	86.678	197	46
600	88 697	2019	47
610	90.763	2066	48
620	92 877	2114	49
630	95 040	2163	51
640	97 254	2214	51
650	99.519	2265	

No.	qr. in.	1 dif	dif
660	101.838	2372	
670	104.210	2427	55
680	106.637	2484	57
690	109.121	2542	58
700	111.663	2601	59
710	114.264	2661	60
720	116.925	27 4	63
730	119.649	2787	63
740	122.436	2852	65
750	125.288	2918	66
760	128.206	2986	68
770	131.192	3056	70
780	134.248	3127	71
790	137.375	3200	73
800	140.575	1628	28
805	142.203	1646	18
810	143.849	1666	20
815	145.515	1685	19
820	147 200	1705	20
825	148.905	1724	19
830	150 629	1744	20
835	152 373	1764	20
840	154.137	1785	21
845	155.922	1806	21
850	157.728	1827	21
855	159.555	1847	20
860	161.402	1868	21
865	163.270	1991	23
870	165.161	1912	21
875	167.073	1935	23
880	169 008	1957	22
885	170.965	1980	23
890	172 945	2002	22
895	174.947	2026	24
900	176.973	205	24
905	179.023	2073	23
910	181.096	2097	24
915	183.193	2121	24
920	185.314	2145	24
925	187.459	2171	26
930	189.630	2196	25
935	191.826	2221	25
940	194.047	2247	26
945	196 294	2273	26
950	198.567	2300	27
955	200.867	2326	26
960	203 195	2353	27
965	205.546	2381	28
970	207.927	2407	26
975	210.334	2435	28
980	212.769	2464	29
985	215.233	2492	28
990	217.725	2521	29
995	220.246	2550	29
1000	222.796	2580	30
1005	225.376	2610	30
1010	227 986	2640	30
1015	230.626	2670	30
1020	233.296	2702	32
1025	235 998	2732	30
1030	238.730	2765	33
1035	241 495	2796	31
1040	244.291	2829	33
1045	247.120	2862	33
1050	249 982		

This will make a rod long enough for common purposes: if a longer one is wanted, take the number of quarter inches at the number less 1000, and multiply them by 10, thus—No. 50 is 24.998
1050 is 249.98
No, 60 is 25.580
1060 is 255.80, &c.

[*Patented Oct.* 26, 1818.

HYDRAULIC MACHINE FOR RAISING WATER BY STEAM.

BY WM. BAILEY.

This machine consists of a frame composed of four uprights, of equal height, with cross braces; at the top of said uprights there are two sills, which are mortised in said uprights for receiving thereon the upper cistern. At the bottom of the uprights, between the inner sides, is placed a square cistern, which contains the water to be raised: in the centre of said cistern is placed a cylinder called the valve chamber, from its having a valve at the bottom of it. The said cylinder rises to a proper height in the cistern, and receives a covering; from the center of said top orcovering rises the main tube by which the water rises into the upper cisterns.

The tube passes through the bottom of the upper cistern, and continues upward about four feet from the top of the sides of said cistern, and the top is closed permanently fast.

From the main tube, at the height of the bottom of the cistern, there is a tube which projects into the cistern, makes an elbow and continues perpendicularly upward about half the depth of the cistern; it then receives a valve at the top, which opens when the water runs into the cistern, and shuts again by the pressure of the atmosphere, or water in the cistern. On any convenient side, at the bottom of the frame, or uprights, is placed the furnace, with the boiler over it, which are similar to other furnaces and boilers.

From the center of the boiler at the top runs a perpendicular tube of proportionable size: it continues upwards to near the height of the main tube, and then makes an elbow, and continues horizontally till it joins the upper part of the main tube in which it communicates. In the horizontal part of the last mentioned tube, and near the main tubes, there is a steam cock or valve, which is operated on by a projecting arm from it, that communicates by a pitman to a perpendicular lever, which at the bottom is joined by a horizontal lever that moves on a pivot in one of the uprights of the frame. The horizontal lever extends across the inner part of the frame, and projecting outwards from the other upright receives, suspended at the end, a weight

which keeps it down on the cogs of the wheel, or other machinery, acted on by the outward machinery, or by the falling of the water raised by the hydraulic pump itself.

The manner in which said Machine is put in operation.

The cylinder or valve chamber must be placed in the water wanted to be raised, either in a cistern or otherwise, a little raised from the bottom, so that the water may have power to enter from the valve in the bottom. When the steam commences to rise from the boiler, the motion of the lever as before described, causes the cock or valve before mentioned to open and shut alternately in quick motion, by which the steam is constantly admitted in the upper part of the main tube, and also constantly withheld, by which means the steam in the tube is constantly condensing, and causing a vacuum which instantly draws the water at the bottom of the main tube upwards, and flows directly into the upper cistern, from the projecting tube before described.

The first column of water rises no higher than 20 or 30 feet; but by the application of another main tube, &c. in the upper cistern, and additional tubes to the boiler, which shall rise to the additional main tubes, the water may be raised to any height at pleasure. The said hydraulic machine may be applied for the use of mills, propelling boats, or any other purpose for which it is adapted. [*Patented Feb.* 4, 1817.

IMPROVEMENT IN BRIDGE-BUILDING.

A New Mode of Constructing Timber and Cast or Wrought Iron Bridges.

BY ITHIEL TOWN.

Suppose a vertical plane, against the side of which are placed the sides of a number of equal and similar flat pieces of timber, or other substances, of suitable dimensions, in such manner, as that they shall be parallel to each other, lay between two horizontal lines in the plane, and incline so as to make an angle with the horizontal lines of about 45°, or any angle that may be necessary for a brace, (as they do the office of a brace,) after which, place another series of timbers, or other substances, of equal dimensions, distance apart, and inclination to the horizontal lines, in the same manner and between the same parallels, but let the inclination be in a contrary way to that of the first series; and let also the distance apart of the pieces of each series be equal, and the second series so laid against the first, as that the ends of the second series will fall upon or against the ends of the first series, thereby forming the space between the parallels, into equal diamonds and half diamonds. Hence, the longer the pieces are in proportion to the distance between them, the smaller will be the diamond, the more times each piece in one series will be crossed by those of the other series, consequently the greater number of joints, and therefore the more strength and less strain upon each joint when weight or power is applied.

But as all plane figures of more than three sides are susceptible of having their angles and areas raised, as also the relative position of their sides, so the above diamond-work, if secured at all by joints or intersections, would be insufficient to resist power properly applied to it for the purpose of deranging or altering its diamond divisions, without other timbers or other substances running horizontally, vertically, or otherwise, so as to serve as diagonals to a suitable number of the diamonds, and thereby dividing them into triangles, figures which are not susceptible of the change before-stated, of position, angle and area. Supposing then, the combination of timbers or other substances to remain in the same position as before-stated, but that the supposed vertical plane be removed: suppose also, that two timbers or other substances of sufficient tension-strength be applied, one on each side of the lower ends of the two series of timbers or other substances, so as to lay horizontally, and have their centers correspond to, or pass through or over the center of those lower joints; and that two other timbers, or other substances, capable of bearing a sufficient thrust-strain, pass in like manner along on each side of the upper ends or joints of the two series of timbers, or other substances, and also, if necessary, other similar horizontal pieces may be placed in like manner on each side of the two intermediate rows of joints next to the two former ones, and so on as far as the extent of the contemplated arch or span may require; after which, secure all the joints by one, two, three, or more trunnels, or iron bolts, with wedges to the trunnels, and heads and nuts to the bolts, to keep all the parts of each joint in close contact. If this combination be extended to any necessary length, and piers or other supports be placed at any reasonable distances from each other, and the size and quality of the substances of which the parts are composed, be suitable to this distance between the piers or supports, considered in connection with the weight that is necessary the combination should sustain, as also the manner the weight will be distributed upon it. Then will this construction become the truss of a bridge, in which it is supposed the least weight of materials, least expence, but greatest strength and permanence will be found: it will be subject to the best and easiest repairs, and have no lateral pressure against the piers or abutments, but containing its whole strength

and power to support weight within itself, and only requiring perpendicular supports for its own weight.

Should circumstances or taste require any curve for the intrados of an arch, leaving the extrados still a straight line, or any curve, either with its convex side up, or in an inverted position. Or, should the extrados be thus varied, and the intrados remain a horizontal line, the principle as to arrangement of materials, and as to connecting the joints, will remain the same, it only requiring that the upper and lower ranges of joints or intersections of the two series of braces, should fall regularly into the lines or curves of the intrados and extrados, and which will form the intermediate rows or ranges of intersections, so as regularly to harmonize the intrados and extrados by intermediate stringers or curve pieces passing over the joints on each side, and secured by trunnels or bolts, &c. as before, in case of the intermediate spaces.

This improvement differs from other bridges principally in the arrangement or distribution of the materials, in the quantity of materials, in the size of the pieces, and in the manner of securing or connecting the materials at the joints—Should iron be used in the construction of the trusses, (especially cast iron,) the connection at the joints might be formed in part by flaunches or otherwise, so as to require (if any) but one bolt to a joint, and the pieces might be somewhat reduced between the joints, with advantage to the strength of the truss.

A bridge may be formed of one or more truss or trusses, and the floor placed on any of the horizontal string-pieces, that the circumstances may require. In case only one truss is to be used, the floor may project on each side, having its outer edges suspended to the top string piece of the truss, with rafters braced by oblique boarding for shingling; or if the floor lay high up in the truss, its outer edges might be braced wholly, or in part, from the lower string-piece, and so secured as (by resting on the piers) to retain its proper position and strength.

See Plate No. 7.

A Is a side elevation of part of a Truss for a Bridge. *a a a*, &c. are the two series of braces crossing each other at right angles; but may be varied in that respect, as may be found most convenient. 1 2 3 4 Are the string-pieces composed of plank of suitable size and length, with the joints or splices distributed, as represented in the bottom-edge of one of the string pieces at *C*. *b b* and *b b* Represent the floor which may be placed also on any other string-piece, to favour any required road-way. *c* Is the floor, *d* the joist, and *e* the end of the beam; *f g* is part of a pier or abutment, which, if stone, iron, or wood, need only support the weight perpendicularly. The joints or intersections are secured by trunnels or bolts which is shewn more at large at *F*.

B Is a section of the Truss *A* at *h i*, shewing the ends and edges of the two braces, and also the ends of the plank, which, when combined, compose the string pieces, and also how they lay against the sides of the braces.

C Represents the under edge of the bottom string piece. It shews the joints in the plank of which it is composed, and the manner the two sides are connected by trunnels, or bolts through them, and the braces at the joints or intersections.

D Is a section of a covered bridge, supported by three trusses, similar to the truss at the middle one, being higher than the side ones.

E Is a section of a covered bridge having one truss for its vertical support; the floor, *braud*, for its support longitudinally; and the rafters and roof-boarding for combining those two supports, and keeping all parts in their true position. The ends of the floor-beams at *j k* to be strongly supported over each pier and abutment.

[*Patented Jan.* 28, 1820.

IMPROVEMENT IN PLOUGHS.

BY DAVID PEACOCK.

The handles, beam, coulters and sheath of this plough, are of the common or any materials preferred, in the form and dimensions required. The particular improvement in this invention is the proportioning the center, edges and faces of the plough to suit the different soils, as well as the fancy of the farmers, which leads to the principle that the operation of ploughing is performed.

1*st.* A separate or entire cast mould-board or plate, being thick and solid in the fore end up to the sheath, and round the edge, coming in contact with the share this mould-board or plate buts up to a strong wooden sheath, shelves down to the share on which it rests in close contact and is secured to the handle, sheath, beam and share, by bolts, screws and rivets, as aforementioned.

2*d.* A bar or landside partly wrought with the share till it meets the foot of the sheath, and partly made of cast iron bar or plate, which interlocks and buts up to the aforementioned wrought part of the bar on landside of the share, as also against the

solid cast iron fore end of the mould-board or plate; and extends to and a little beyond the handle on the right, flatting or resting against the sheath and handle, and screwed or riveted thereto by bolts or screws, passing through perforations cast in the said bar or landside plate; two or more of these bolts or screws through the sheath and handle may be used; if bolts are used they may be riveted or screwed by a nut and screw.

3*d*. Improved fastenings of the cast iron mould-board or plate to the share and sheath, besides being bolted or screwed through the cast perforations in the place where the mould-board or plate comes in contact with the left hand side of the share and handle; the mould-board or plate is firmly bolted to the share and sheath, and riveted or screwed, so as to unite them in the most effectual manner, by a wrought bolt passing through a cast perforation in the solid fore end of the mould-board or plate, and the share at a convenient distance between the point of the share and sheath, and in a line nearly with the middle of the sheath: but the position of this bolt may be varied to suit the make of the plough and the maker's idea.

It is to be firmly riveted underneath the share, or what is better, screwed by a screw and nut. Second, by a wrought bolt and screw cast in the left hand bottom edge of the mould-board or plate, to pass through a perforation in the share where they come in contact; near the upper or hinder end of the share on the left hand; this bolt is to be secured by a rivet underneath the share, or better, by a nut and screw cast in the mould-board as aforesaid.

Third, to be further secured to the sheath by a wrought bolt and screw cast in the solid fore end of the mould-board or plate where it buts against the sheath; which bolt passes through the sheath and is secured by a rivet or nut and screw, which is better.

These fastenings are high improvements in holding all the parts of the plough firmly together in the most accessable and simple manner, in order to vary the proportions to suit every soil, and farmer's idea, and may be cast or wrought in at pleasure, and their number and position may be varied to suit the maker.

4*th*. The long bolt passing through the beam, is mentioned, because it passes through the solid fore end of the cast mould board or plate, which gives more strength and steadiness to the whole, and proving a part of the advantage of the present improvement in the mould-board plate.

5*th*. These improved fastenings may be applied to the connecting a wrought bar share to my cast mould-board or plate, more strong and simple, than in the usual mode of a mortice and tennon. In this mode the mortice and the bar is omitted; the coulter may be connected to the end of the share or not, at the choice of the maker, but forms no new improvement either way. [*Patented May* 29, 1817.

MACHINE TO PRESS TOBACCO.

BY SIMON FRASER.

There is a gallows or frame, whereby the press, pole or lever, is raised by a rope that goes through a pulley at the head of the gallows or frame; and in the gallows or frame under the press, pole or lever, is an axle by which the said rope is attached, by which means the said press, pole or lever is raised, and the other end of the said rope is attached to the said press, pole or lever; and also is hooked on the said press, pole or lever, a chain, by the one end, and the other end is hooked on to the axle, whereby the said press, pole or lever, is drawn down, by the means of a purchase wheel that is put on the end of the axle; which said wheel is so constructed as to be taken off at pleasure. And the said wheel is notched in the center of the rim of the wheel for the reception of a dog at each side of the wheel, and on the outer edge of the rim of said wheel are handles or pins, whereby a rotary motion is given to the said wheel; and at the extreme end of the press, pole or lever, is fixed a stay sword that plays in a mortice that is made in the extreme end of said press, pole or lever, to keep said press, pole or lever, to the place wished; and said stay sword is fixed with a joint so as to permit the said press, pole or lever, to be drawn out of the upright post, or fulcrum post, that the said press, pole or lever, is let into by a mortice in said upright post, or fulcrum post, by a tenon on said press, pole or lever.

[*Patented March* 23, 1820.

THE DOUBLE SHOVEL PLOUGH.

BY JOHN BALTHROPE.

This plough consists of two beams of a convenient length; that is to say, the longer beam 5 feet, 3 by 2 feet; and the shorter beam 3 feet 9 inches, 3 by 2 inches. These beams to be reduced from the regulator to the end of the beam to one inch and a half. The beams to be united at the small ends by two iron bands and a wooden pin.

The two beams form an angle of 8 or 9 inches at the regulator; the regulator to be 17 inches long, by 2 1-2 inches inches wide. The mortices through the beams, for the regulator, to be so constructed, as to put the helves full as far at the lower points of the helves as at the level of the beams; the longer

helve to be 3 feet 4 inches, the shorter helve to be 2 feet 9 inches, 2 1-2 by 2 1-2 inches; the mortices through the helves to receive the beams, 16 inches from the lower point of the helves up, forming an angle from 13 to 13 1-2 inches, the handles to be 5 feet 6 inches in length of the usual size; the wooden braces that pass through the helves and handles, the longest brace to be 2 feet long, 1 1-2 by 3-4 inches, the shortest brace to be 17 1 2 inches long, 1 1 2 by 3-4 inches. The size of the shovels or shears to be 8 1-2 or 9 inches, by 11 1 2 inches in length. The shovels to be connected to the helves either by screws or bands, as the farmers may think best.

The regulator to pass through the beams near the shoulder of the short beam; the end passing through the short beam to be confined by a draw pin, the other end passing through the long beam, with a moveable tenant, so constructed by wooden keys, passing through the regulator, as to give the plough more or less lap, as the farmer may wish. [*Patented Sept.* 20, 1820.

See Plate No. 8.

IMPROVEMENT IN THE LIME KILN.

BY JACOB SWOPE.

This kiln is made of either earth, brick, or stone, and formed in the following described manner:—

One end of said kiln is built of a square form, having four sides of about eight feet wide each, and ten feet in height.

At the bottom of said square part are three furnaces, or arches, with divisions between them, similar to those in the arches of a brick kiln, these arches extend in depth the same as that of the square part before mentioned, the part over the arches is then filled up, and made level to form the floor of said square part; in the center of one of the four sides of said square part, there is a door, either at the height of the floor, or higher up.

From one, two, or all the four sides of said square part projects an arch, or vault, of a semi-circular form, and about six feet in height; said arch or vault extends out about 26 feet, and is formed bevelling towards the extreme end.

At the bottom of the end of said vault there are three furnaces, or arches, in every respect similar to the arches in the square part before described: over each of said arches, at the height of the level floor there are three openings for the purpose of introducing the wood to supply the fire at the back part of the arch or vault.

The lime is taken in from the door in the square part, and laid on the floor of the arch or vault, which is on a level with the bottom of the furnaces or arches before mentioned, the lime-stone is so placed as to form a continuation of the arches at the ends of the kiln. The upper part of the vault or arch, is then filled in a compact manner, leaving a vacuum or space between the wall of the narrow end of the vault, and the lime-stone; which vacuum contains the fire that is made on the level part over the under arches.

When the lime-stone is all stowed, the mouth or opening in the widest end of the vault or vaults, is then bricked up with loose bricks, the arches filled with wood, and fire set to it, and let burn until the stone is turned to lime.

[*Patented March* 14, 1817.

MACHINE FOR HULLING GRAIN.

BY MALTBY FOWLER.

The patent for the original machine was granted to Benjamin Maltby and Maltby Fowler, on the 23th of Feb. 1818. A patent for an improvement thereon was granted to said Ben. Maltby and Maltby Fowler, on the 26th Feb. 1819, reference being had to both said patents.

The present improvement for which an application for a patent is made by Maltby Fowler, consists in this:—

1*st.* The cylinders of the machine are placed in a frame, in a standing direction, one end being elevated, the other depressed.

2*d.* The wings are placed at the depressed end of the cylinders, and the grain or rice to be hulled or cleaned, is introduced within the machine, between the two cylinders, at the end opposite, where the wings are placed; or, in other words, at the elevated end of the cylinders.

3*d.* As the cylinders are slanting, and the grain or rice is introduced at the elevated end, it inclines to run downwards towards the wings, where it passes out of the machine, while the dirt, smut, &c. being much lighter, is driven upwards, lengthwise the cylinders, and out of the elevated ends of the cylinders, by means of the wind produced by the revolving of the wings. In this way the grain or rice is cleaned and separated from the dirt, smut, &c.

4*th.* Cut strips of iron, or other metal, of convenient length and breadth, with teeth similar to saw teeth, cut on one edge, fastened on the cylinder, may be used in lieu of the points now used by the improvements heretofore patented.

[*Patented July* 28, 1820.

MACHINE FOR SHELLING CORN, &c.

BY ZINA PHINNEY.

This machine for shelling corn, consists of a frame with four legs, so as to admit of a wheel made of plank, double, crossed grain, three feet diameter, from four to six inches thick, with the side filled with nails without heads, or wide irons, one inch apart: or the wheel may be made of cast iron, with the nails cast in; with a place in the center for grinding, by placing a plate on the frame, with a small hopper over it. The frame to have a plank on the inside of the legs, filled with nails likewise. This wheel, when double geared, must have the axle-tree to play back against a spring on the backside of the frame, so as to admit small or large ears to pass between the front of the frame, or plank filled with nails, and the wheel, which shells the corn by rolling through.

Another principle of shelling corn on the same wheel, is, by placing a plate of iron on one part of the frame, near the front of the wheel, for the ear to lay on, held against the wheel by a spring, which is confined with a screw near the centre of the wheel, which presses the ear against the wheel, and forces the cob out endwise. This wheel may be turned by water or horse, with crank, treader or hand-staff, confined to the frame with a screw, nearest the lower end, with a pitman round the crank, and fastened by a screw to the lower end of the hand-staff.

This purchase hand-staff will answer for turning grind-stones, or sawing, by placing a saw on the crank of a fly-wheel: and will also answer for flax and wheat, by placing swingling knives on it. The knives may be fed with wheat or other grain by a box, similar to the cutting-box, with which may be used a round block with pegs in it, which turn by cogs near the center of the fly-wheel. [*Patented Feb.* 16, 1815.

See Plate No. 9.

a The frame of the machine.

b Wheel made of plank or cast iron.

c The side filled with nails without heads, or wide irons.

d The plank filled with nails, on the side towards the wheel.

e Spring that operates on the axle-tree of the wheel.

f Plate of iron on the frame.

g Spring that holds the ear against the wheel.

h Crank that turns the wheel by hand.

i The crank that is turned by the pitman.

k The pitman.

l The purchase hand staff.

m Button that regulates the spring for large or small ears of corn.

N. B. When the machine is single geared it will have a crank, or cranks, on the main axle of the wheel.

Improvement on the above Machine.

BY HUGH GALLAGHER.

This improvement consists in the addition of a flanch or rim to the circumference of the main circular cast iron plate of the machine aforesaid, which may project from the outer circumference of the plate, and being cast, or run together with the plate, will form one substance with it. The advantages of this improvement are twofold. First, it keeps the plate from being warped or sprung in the casting; which warping renders the machine nearly useless. Secondly, it answers the purpose of a fly or a balance wheel, which is very necessary in a machine where the resistance to be overcome is so unequal. The rim may be cast of any desired size or weight, to suit the dimensions of the machine, and will be found perfectly effectual in producing an exact level in the working surface of the plate, and an important saving of power. The warping of the plate may also be prevented, by casting it with ribs running across the outer surface, either in a radical direction or square, hexagonally, octagonally, or in any other form that may be preferred: or the circular projecting rim may be placed any where between the circumference and the center: the principle is the same, but the method first above mentioned is the best manner of applying it. When the main working plate is made of wood, the rim may be made separately, either of cast or wrought iron, and screwed or riveted on. In further illustration of his improvement, reference may be had to the drawings in the United States' Patent Office, which belong to, and make a part of this specification.

[*Patented Oct.* 29, 1818.

MACHINE FOR DRAWING WATER, COAL, &c.

BY EDMUND C. DAULEY.

This machine has a half cogged spur wheel on a perpendicular shaft, with two trundle heads, one on each side, and two drum wheels, one on each shaft, on which are the trundle heads. There is a horizontal shaft lying across the spur wheel, with a cog wheel on each end to work in the same trundle heads; so that when one drum is winding up the bucket the other one is carried back by the other segment of cogs, working into the other trundle heads. Each rope has a pulley to run over to guide the buckets, or the machine may be made as follows: make a half cogged fore

wheel and perpendicular shaft, and a horizontal shaft lying across the face wheel and well. On this shaft there are two wallowers, one on each side of the face wheel, and a drum wheel on the same shaft to wind up the buckets over the well, and two pullies below to guide the buckets.

What I claim as my peculiar invention, is the application of a segment wheel to raise water, coal, or any other substance to any height, by the animals always walking the same way round, and making the buckets to rise and fall alternately.

Patented May 12, 1812.

MANNER OF MANUFACTURING SUGAR AND MOLASSES.

BY HENRY FRY.

After collecting the juice or sap, in the usual way, instead of boiling it down to sugar and molasses in a kettle alone, attach a wooden tube to the top of the kettle, either on the in or outside, which must be well fitted on. So much juice or sap must then be put in, as to rise above the kettle; and its surface must not, at any time, whilst boiling, be suffered to fall below the bottom of the wooden tube. By this means the juice or sap will boil away or evaporate faster; and its surface being at all times, while boiling, in contact with the wooden tube, it will be prevented from burning on and adhering to the side of the kettle; and the sugar and molasses thus manufactured, will be much more pure than if manufactured in the usual way.

[*Patented April* 6, 1820.

AGENCY OF DOGS AS A POWER.

BY ANTHONY TIEMAN.

I claim as my invention or discovery, the agency of dogs as a power to the following useful purposes, viz.—For pumping water, propelling boats, grinding paint, corn, bark, &c. cutting straw, turning the grind-stone, &c. &c. For this purpose I make use of one or more hallow wheels, suspended vertically by their axis; inside of which are placed the dogs. An axle-tree passes through the center of these wheels, over which is placed a ring, to which is fastened a chain or rope-cord, and made fast to the dog's collar, made for the purpose. The wheel is then made to turn by the dogs, striking their feet against this hollow drum or wheel, as if in the act of climbing up. When the dogs are well paired, they may be made to turn the wheel without any fastening.

The wheels in which the dogs are placed, are connected either to another wheel, or to another wheel-crank, to give motion to the connecting machinery for propelling boats, pumping, &c.

When used for propelling boats, I put on the main axle a large cog-wheel, working into a smaller one on the axle of the paddles on the water-wheel. By proportioning these wheels properly, any degree of velocity can be given to the water wheel or paddles, for moving the boat, &c.

To increase the momentum, and to cause the cranks to pass the nodes or dead points with more ease, I make use of fly-wheels: or to effect the same purpose, I load the periphery of the wheels with cast iron, or in any other known way.

As my discovery consists in employing as an agent this intelligent and active little animal as a power, I do not claim any part of the machinery as my invention.

I consider myself only entitled to the discovery of the mode of converting this intelligence and activity into power, for the useful purposes here specified. And to shew the value of my discovery, I will here mention what has been done by certain dogs of my training, for some time past. One of them pumps about twelve hogsheads of water per hour, for six hours together, with ease. [*Patented April* 27, 1818.

TIDE WHEEL.

BY N. GATES AND A. MAXWELL.

A strong circular frame work is constructed of several pieces of square timber, equal in number to the floats that are intended to be fixed to the wheel. These pieces are placed at equal intervals, like the spokes of a carriage wheel, and converge to a place so near the centre, as to leave a space large enough to admit the shaft of the main cog-wheel. Their out extremities being then fastened to a rim of the same materials, the whole is covered with plank in a substantial manner, and thus is completed a large circular platform, to the radical timbers; on the lower side of which the buckets or floats of the wheel are appended. The floats are made of plank of a convenient thickness, and are in shape, similar to the sector of a circle, each one of them containing a number of degrees, equal to the quotient of 360, divided by the whole number of floats with which the wheel is to be furnished. One of these floats is fastened by hinges of iron or other materials, to each of the above-mentioned timbers, which pass from the circumference to near the center of the wheel; one of the hinges connecting the edge of the float near its broadest end to the periphery of the wheel, while the opposite or small end of the float is rounded, and passes into a circular piece of cast iron which is furnished at proper intervals on its outer rim, with apertures to receive the small end of each of the floats.

This last mentioned rim which subserves the purpose of hinges for all the floats, by receiving the small end of each of them into a circular hole fitted to receive it, is fastened to the lower side of the wheel in such a position as to embrace the main shaft. Thus fastened or suspended, it will be seen that the floats can move on their hinges in such a manner, as either to hang perpendicularly in the water, or lie horizontally against the lower surface of the wheel. To enable each of the floats to preserve its perpendicular position while receiving the impact of the water, a chain is fastened to its lower edge, which extending thence, passes through a hole in the periphery of the wheel, at a distance from the axis of the float, equal to the width of the same, and is then linked to an iron knob, so large as not to be drawn through the aperture by the pressure of the water upon the float. Through the upper part of each of these knobs is an eye or aperture to receive the hook of another chain, the purpose of which is, to raise the float when it is desired to stop the motion of the wheel. This operation is effected in the following manner:—On a circular frame passing around the main shaft, and connected with it, are placed perpendicularly over the floats, as many cylindrical jacks as there are floats on the wheel; to each of which is fastened the end of one of the chains last described. These jacks being furnished at their exterior ends with winches to turn them on their axles, and ratched or click wheels to prevent them revolving in the opposite direction, are used to wind up the chains, which by being hooked into the iron knobs above described, connect the cylinders with their corresponding floats on the wheel. By turning these winches or cranks, all or any of these floats may be drawn up or lowered at pleasure. The wheel being thus completed, and placed horizontally in the water where there is a current moving in any direction; it is evident, if we suppose a line in the direction of the current, passing under the center of the wheel, that the floats on the one side of this line, forced to preserve their perpendicular position by the chains first described, oppose themselves to the percussion of the water, and are of course driven forward in the direction of the current, while each float on the other side of this line, presenting to the current the side opposite to that to which the chain is fastened, yields to the pressure until it be flat against the lower surface of the wheel, in which position affording no obstruction to its rotation, it remains until having passed the central line at a sufficient angle to receive the impact of the water, it is again forced into its perpendicular position, and driven forward as before. When the wheel is placed in a horizontal position, as in that case its motion is derived from the percussion merely, and not from the gravity of the water operating upon the floats, its diameter will necessarily be considerable. It is however believed that it will not be required to exceed twenty feet, as the floats can be conveniently made to extend one third of the length beyond the circumference of the wheel, without impairing its strength. When it is desired to increase the power of the wheel without enlarging its diameter, floats may be added to the upper side of the wheel, similar in shape and size to those below; observing, however, to place the whole so deep in the water as not to leave them uncovered during the ebbing of the tide. And here it may be useful to observe, that the wheel may be either fixed firmly to the shaft at such a depth, as to remain beneath the surface when the tide is at its lowest ebb; or it may be suspended by chains from the cog-wheel, and by being moveable on the shaft, conform its position to the fluctuation of the tide, by floating on the surface of the water.

In constructing tide-mills, the inventors intend to place their wheel between two piers of stone or timber, which shall be parallel for a space in the middle, but diverge at both ends, for the purpose of concentrating the current, and directing it more forcibly against the wheel. At a proper depth in the sluice way between the parallel parts of these piers, is to be sunk a frame work of the same diameter as that of the wheel; which being covered with plank in the form of a very obtuse cone, shall correspond to the inclination of the lower edges of the floats when in their perpendicular position: and on the vertex of this cone is to be placed the timber commonly called the bridge-tree, containing a box to receive the lower gudgeon of the main shaft. The opposite openings of the piers are each to be furnished with a flood-gate hung to the exterior of the sluice or opening, at the parallel part of the piers, and thence extending a distance not exceeding half the diameter of the wheel. These gates being alternately opened and closed by the tide, according to the direction of its current, serve to make an eddy under that side of the wheel where the floats are returning, and to direct the full force of the water against those on the opposite side. In situations where the depth of the water, or strength of the current renders the sinking of piers too difficult or expensive, it is the intention of the inventors to affix the wheel to boats or rafts constructed for the purpose, (which may be anchored in convenient situations, and removed as often as occasion may require) and to make thereon the necessary erections for machinery.

Though, in constructing our tide wheel we had chiefly a view to its application to mills for flouring, it may be applied to any

kind of machinery where a water power is required; and may be substituted in many places for a wheel of any other mode of construction, by placing it as circumstances shall require, either in a horizontal, vertical, or an inclined position. It may be used in large creeks, or rivers where the current is strong and deep, and where the breadth of the stream, declivity of the banks, or other unfavourable circumstances preclude the possibility of erecting dams or opening canals to supply wheels of the ordinary construction. But the most advantageous situation in which it can be employed, are places where the tide ebbs and flows with considerable force and rapidity through the narrow inlets to considerable creeks, rivers and bays. In such places, notwithstanding the alternation of the currents, the wheel will continue to revolve in the same direction during both the ebbing and flowing of the tide. And it is believed that even in more open situations, where the tide is not accelerated beyond its natural current, by contiguous shores or artificial erections, its momentum will prove sufficient to propel any kind of machine to which a water power has hitherto been successfully applied.

[*Patented Sept.* 13, 1820.

DOUBLE FORCING PUMP.

BY MR. GILLET.

The main pump is made in the usual manner of making common pumps, of pine or other wood, with a hole through the center of the same, but stopped at the bottom; on each side of this pump is fastened a barrel or driver stock, of the length of two and a half or three feet, with a hole through the center of each; these barrels or driver stocks are fastened at the lower part of the pump on each side, and at the bottom by a board, or in some other way, which connects the same together, and made tight at the bottom; at the lower part of these barrels or driver stocks, are placed two valves or clapper boxes, by which the water is let into the barrels or driver stocks; similar valves or clapper boxes are also placed in the main pump, just above the valves or clapper boxes in the barrels or driver stocks, which in the inside connect or make a communication between the barrels or driver stocks, and the main pump; a handle is fixed at the top of the pump in the usual manner; to this handle are fastened on each side of the pump, a driver rod, which on each side, goes down into the barrel or driver stock; at the end of each of these rods, are two round balls, covered with leather, just large enough to enter the hole in the barrel: the valves or clapper-boxes may also be placed or sunk in the inside of the barrel or driver stock, and holes made on the side of the barrels, to let the water into the same. The pump is placed on the bottom of the well, or other place from whence water is to be drawn. By raising or lowering the handle or staff of the pump, the rods move alternately up and down in the barrels or driver stocks, and by which the water is first drawn into the barrels, and then forced from the barrels into the main pump, through the inside valves or clapper boxes, and raised to any height in the main pump. [*Patented April* 6, 1820.

See Plate No. 10.

a The main pump.

b The barrels or driver stocks.

c The valves or clapper boxes in the barrels.

d The valves or clapper boxes inside, connecting the main pump, with the barrels.

e The driver rods.

f The handles or staff of the pump.

IMPROVED FIRE PLACE.

BY LEVI SHEPHERD.

A wall of brick, or stone, cemented with mortar, is built in the center of a common fire place, united with the back of the chimney, and brought forward within one inch of the front of the jambs. This wall is raised to the height of 18 inches, and is 27 inches in width, but may be made broader at the option of the builder, but not much higher.

The vacancy between this wall and the original jambs of the fire place, is built up with brick and mortar to the mantle bar, and as far forward as the front of the original jambs, with which it is united; thus forming the jambs to my improved fire place. On andirons placed on the hearth, and against the front of the eighteen inch wall, which I call the lower or bottom back of the fire place, the fire is built: on the top of the lower or bottom back of the fire place, and three inches from the front, a false back is erected, which is carried up perpendicularly, until it rises within four inches of the bosom of the chimney; it is then carried in a slanting direction until it unites with the old back of the chimney, always keeping exactly four inches distant from the bosom of the chimney.

On front of the jambs is fastened a sheet of iron twenty-nine inches long, which as the fire place is twenty-seven inches wide, laps one inch on each jamb. This sheet of iron is wide enough to reach from one inch above the bottom of the mantle bar, to within four inches (measuring perpendicularly) of the top of the lower back of the fire place, being fastened on the front of the jamb, it of course projects one inch

over the bottom or lower back of the fire place, thus leaving a flue of four inches in width for the smoke to ascend into the chimney.

On the inside of this sheet of iron at the distance of two and one half inches below the top edge, is riveted an apron of sheet iron of twenty-seven inches long, and five inches wide, for the purpose of making a continuation of the bosom of the chimney, to which it is nailed close.

The whole front of the old fire place being thus completely closed up, except the single aperture left for the smoke to ascend into the chimney, is plastered over in a handsome manner, and finished.

On the top of the bottom or lower back of the fire place, sufficient mortar is put to give the smoke, as it enters the flue of the chimney, a slanting direction of about forty-five degrees. [*Patented Jan.* 25, 1817.

BREWING BEER BY THE USE OR APPLICATION OF STEAM.

BY HARVEY HACKLEY.

A steam boiler is to be set in a convenient part of the brewery, with safety valves, a water valve, and a vessel above it to hold water for feeding it, called a feeder, as is usual with steam boilers in steam distilleries. At a suitable distance from the steam boiler, and at such an elevation as will command the mash tun, is to be placed a vessel called the water-heater, to be used for heating the water by means of steam from the steam boiler, and from the wort boiler, (to be described) to mash the malt. The water heater is to be an entirely tight vessel, with a door in the top large enough to receive a man for the purpose of cleaning it; and through which the water is to be let in, and to ascertain the heat of the water: it is to have a cock or cocks through which to draw off the water, that it may flow into the mash tun.

The mash tun (of the ordinary construction) is to be placed at an elevation sufficient to command the wort-boiler hereinafter described. The wort-boiler in which the wort is to be boiled by means of steam from the steam boiler, is to be an entirely tight vessel, with a door in the top of it, large enough to receive a man, for the purpose of cleaning it, through which to put in the hops, and through which the wort may flow in from the mash tun: the wort-boiler thus answers the purposes both of a boiler for the wort, and an underback. It is to have a cock or cocks through which the wort may flow out after it is boiled, and be permitted to flow into the coolers. A steam conductor is to proceed from the top of the steam-boiler, and to enter at the top of, and extend to the bottom of the water-heater, with a stop-cock fitted into it as near as may be convenient to the steam-boiler, to convey the steam from the steam-boiler into the water heater. A steam conductor is also to proceed from the top of the steam boiler, and to enter at the top of, and extend to near the bottom of the wort-boiler, with a stop-cock fitted into it as near as may be convenient to the steam boiler.

By means of the stop-cocks abovementioned, the steam may be all turned into the water-heater, or all into the wort-boiler, as occasion may require. Another steam conductor is to proceed from the top of the wort-boiler, and to enter in at the top of, and extend to the bottom of the water heater, for the purpose of conveying the steam while the wort is boiling from the wort-boiler into the water-heater, thus heating the mashing water, and saving the saccharine of the malt and strength of the hops with which the steam is impregnated, by condensing them in the mashing water: this will also enable the brewer to boil his wort quicker than he could in an open boiler, because it will be much hotter. In places where economy of fuel is an object, a steam conductor should proceed from the top of the water-heater and enter at the top of, and extend near to the bottom of the feeder to the steam-boilers; because the water in the water-heater will sometimes boil before the wort in the wort boiler is boiled enough. This will save whatever heat may go off in steam, by means of heating the water in the feeder which supplies the steam-boiler. But when there is no steam-conductor from the water-heater to the feeder, the door to the water-heater must always be left unfastened. If any brewer does not find it convenient in his way of brewing to use the steam from the wort-boiler, to heat the water in the water-heater for next mashing, he may conduct it to, and discharge it into another vessel, and use it for any other purpose he may prefer: or, if one should prefer to have the steam go off from the wort-boiler, without conducting it into the water-heater, or other vessel, he has only to leave the door open after the wort is ready to boil.

The water-boiler, the wort-boiler, and the steam-conductors to them, may be

made of wood, metal, partly of each, or of any other materials adapted to the purpose; and the fastenings for the doors of the water heater and the wort-boiler, will be different, according as one or other material be used: if the wort-boiler and water-heater, be made of wood (as it is presumed they generally will be, because the cost of the wooden vessels will be very trifling, compared to that of the metalic or those composed of most other materials) the doors should be also of wood, with iron clasps riveted on to them. The clasps should have openings in their ends to fit into staples, and should be fastened by means of keys to drive in. The staples should be fastened on the inside of the vessels by means of nuts and screws on their ends.

In large breweries in which the different vessels will of course be of a large size, the steam should be discharged into the vessels at several openings to the steam conductors, at proper distances apart, so that the heat will more readily operate on all parts of the fluid, and also to prevent too great a concussion that might be occasioned by the heat coming in contact with the cold fluid all at one place After the conductor enters those large vessels, it should branch off into several divisions to effect the last mentioned object, because it is necessary the steam be all discharged at or very near the bottom of the vessel.

Philo M. Hackney's patent steam-boiler is recommended for the economy of fuel and room, as being the best in use. A common copper still, where economy of fuel is not an object, will answer as well as a steam boiler: and it is believed a cast iron one would do

[*Patented April* 21, 1820.

IMPROVEMENT IN MOUSE TRAPS.

BY NOAH SHEPHERD.

A box or trunk made of wood, sheet-iron or tin, the length from ten to twelve inches, the height and breadth about five inches. This trap contains two apartments of equal size; the one in which the mice are first taken is formed by a fall piece fixed to a roller turning on pivots or gudgeons, which rest on the side pieces of the trap; this roller is turned, or operates by a chain fastened to the top of the roller, and hanging in the same apartment, with a weight of sufficient magnitude, fastened at the other end of the chain, so as to operate the fall piece. The end piece of the trap where the bait is placed, ascends about four inches above the top of the box, and has a perpendicular trap stick or spindle affixed to it, near the bottom, the trap stick is operated by a spring bedded in the end piece of the trap, and is covered on the out-side of the end piece of the trap by a slide, which confines the spring to its place. The trap stick has a notch or shoulder cut in the side of it to support the fall piece and the end on which the bait is placed is about two inches above the fall piece. The partition between the two apartments is an upright piece of wood, with a funnel through the same, made of wire, for the conveyance of mice from the apartment in which they are first taken to the other.

The lid over the apartment in which the mice are confined turns on pivots or gudgeons, and is confined at the end of the trap by a button. When the animal springs the trap, it slides into the first apartment, and the fall piece rises to its place immediately on the reception of the animal, and the trap is then set for the next animal that may chance to visit it. For taking rats or squirls, the trap must be made in the same manner as for mice, but the size of the trap must be proportioned to the size of the animal intended to be taken.

For taking musk-rats or minks, the box or trunk may be made circular or square, and to be set in water, and to operate in the same manner as the trap for mice.

For taking large animals, such as bears, wolves, foxes, racoons, &c. instead of making a box or trunk, it will be necessary to dig a pit in the ground, and one apartment will be sufficient, and the fall piece is operated by a spring and weight in the same manner as in the small traps for mice.

WORKING THE SIEVE AND BALL,

By Water or Horse Power, which have heretofore been used by hand, for Granulating Gun Powder.

BY DAN. ROGERS.

Four perpendicular shafts, three feet high, fixed at right angles, their tops being pivots, each supporting an horizontal wheel. On the wheels five and three quarter inches from their center, are pins with shoulders, serving for other pivots. A frame forming squares, open at the top and bottom, in each of which a sieve is secured by four cleets screwed to the sieve, and let into the frame. Passing each other at the center of, and through the frame to carry it, are two light shafts with their four ends resting on the pin pivots of the wheels. One of the wheels having cogs, is carried by the moving power that

may be connected with it, at the rate of about 96 revolutions in a minute, over a circle of 11½ inches diameter, producing a correspondent motion to the other three wheels, and giving a quick circular action to the balls in the sieves. Under the sieves is a box to receive the grains, sufficiently large to permit the frame containing the sieves to take its circle within it. The three horizontal wheels without cogs, may be substituted by cranks. The attendance of one man is necessary to feed the sieves and regulate the machine.

[*Patented Aug.* 6, 1818.

LONGIMETER.

BY JAMES HENRY.

Be it known, that I, the said James Henry, have invented a new and useful piece of mechanism, not known before: which invention I designate by the name or title of the *Longimeter*, by which the longitude may be found in the same way as by the chronometer. It may also be found by the sun in a different way, with much more facility and greater accuracy. It may also be determined with equal accuracy, equal, and perhaps, more facility, by either the moon, a planet, or any known or fixed star, as by the sun. It is, moreover, a *Universal Timekeeper*, shewing the hour and the minute of the hour, at all places on the surface of the globe: and it will beside answer nearly all the purposes of astronomical clocks; and it is certainly adequate to every purpose of a sidereal one. This invention and the manner of using it is as follows:—

The internal works, or mechanism of the longimeter, differ but little from those of the chronometer; but the arrangement of the face is entirely new. The hour wheel is so constructed, as to perform but one revolution in 24 hours; and instead of a second wheel, one that revolves with only one-fourth of the velocity, making a revolution in 4 minutes; 15 for one of the hour wheel, and 360 in 24 hours. These two alterations comprise the whole variation of the mechanism of the longimeter from that of the chronometer. In all other respects the internal works are precisely the same.

The face is divided into four parts. No hands are used, as the object of their use is accomplished by means of the dials, all of which revolve on their pivots, from left to right. The dial on the center of the face, is the mile or longitudinal minute dial; it is divided into 60 equal parts, or minutes of a degree. It makes a revolution of 4 minutes of time, 15 for one of the minute dial, and 360 for one of the hour dial, or in 24 hours. By it the mile, or minute of a degree is determined.

The next and middle dial, is the minute dial. It is divided into 60 equal parts or minutes, and makes a revolution every hour, and 24 for one of the hour dial, or in 24 hours. By it the minute of the hour is determined.

The next and last dial is the meridional dial. It is divided into 360 equal parts, to represent the degrees of longitude into which the earth's surface is imaginarily divided; and makes a revolution in 24 hours, or one for every revolution of the earth on its axis: by it the hour and degree of longitude is determined.

The next and outwardmost is the right ascension plate; it is divided like the meridional dial, into 360 equal parts or degrees. Upon this plate are fixed four hands, one is fast at 0° on the plate; of the other three, one represents a moon, one a star, and the other an hour hand. Its use will be explained when we come to speak of the manner of using the longimeter.

The principle on which this invention is founded, is that of the diurnal motion of the earth on its axis: by this motion every 24 hours, it produces on every meridian, a noon, mid-night, and all the intervening hours, minutes and seconds of time, or otherwise expressed; it brings under the sun every part of its surface, every degree and minute of a degree into which the earth is divided. Let the meridional dial of this invention represent the earth revolving on its axis: and let the hand fastened on the right ascension plate at 0° of right ascension, represent the sun. Now, as the meridional dial makes but one revolution on its axis in 24 hours, which corresponds to the diurnal motion of the earth on its axis; and as the hand on the right ascension plate at 0° of right ascension represents the sun, it is obvious, that the meridional dial performs truly (as far as mechanism can be made to perform) with regard to the right ascension plate, the motion that the earth performs on its axis; and by this motion the aforesaid hand produces on the meridional dial the same effects, with regard to time or motion, as the sun produces on the earth, on account of its diurnal motion on its axis; therefore, if when the sun is on any meridian, (suppose that of Washington) the longimeter be set or regulated to that meridian, it is evident that the meridional dial will, at all times, have under the aforesaid hand, the same degree of longitude and minute of a degree, as that which the sun is on: this however is not independent of the equation of time or motion, as that correction must always be made. The minute of the hour is determined by the minute dial, and the minute of a degree by the mile or longitudinal minute dial, as has been before stated.

When the longimeter is used in the same manner as the chronometer, either by equal

altitudes, by an observation of the sun, before or after he has passed the meridian, or by observations of a fixed star, or of a planet; every division of the mile and longitudinal minute dial, must count 4 seconds of time; and the divisions or minutes must be counted by the inner numbers that run to the left hand, 0, 5, 10, 15, 5, 10, 15, &c. &c. round the dial. Multiply whichever of these numbers is pointed out by 4, and the product will be the seconds of time required. Suppose, when taking an observation, the number pointed out to be 10, this, multiplied by 4, equals 40, for $10\times4=40$; the number of seconds that would be shewn by the second hand of the chronometer. By this simple method of using the longimeter it answers every purpose of the chronometer; and of course every other method of using it will give it so much the advantage over the other.

In using this piece of mechanism for the purpose of ascertaining the longitude, the minute dial is not used at all, only the meridional dial, and the mile or longitudinal dial, which point out a degree and minute of a degree. The most easy and convenient method of using the longimeter is by equal altitudes of any object.

If, when finding the longitude by equal altitudes of any object, that object be found by the longimeter to be on meridians of longitude of the same name, either east or west, then subtract the lesser from the greater number of degrees of longitude pointed out, halve the remainder, and add this last sum or remainder to the least, or subtract it from the greater number of degrees pointed out, and the product or remainder will be the ship's longitude at the time of the sun's passing over the meridian, uncorrected: to this the correction of the equation of time, equation of equal altitudes, the rate of the longimeter's going, and any other that may be necessary must be made. *Example*—Suppose a ship in the longitude of 90° east of the meridian of Washington, by an observation of the sun, say 4 hours, or 60° from the meridian, the sun will be found by the longimeter, to be on the meridian of 150° east, and at the time of a corresponding observation, after he has passed the meridian, he will be found to be on the meridian of 30° east. Therefore, by the above rule, $150-30=120\div2=60+30=90°$ of east longitude, the same as that assumed for the purpose of working the example. But the rule will also work the other way, $150-30=120\div2=60-150=90°$ east longitude, the same as before.

When the object is found at the time of taking the observations before and after it has passed the meridian, to be on meridians of two separate names, or east and west; and if it be also found, that in the interval between taking the corresponding observations, that the object has passed over the meridian to which the longimeter is regulated, then add the greater and less number of degrees of longitude pointed out by the longimeter together, halve the remainder, subtract from this the less number pointed out, and the remainder will be the ship's longitude uncorrected at the time of the object's passage over the meridian, and the longitude will be of the same name as the largest number of degrees that was pointed out by the longimeter. *Example*—Suppose a ship in the longitude of 20° west of the meridian of Washington, by an observation of the sun taken 3 hours, or 45°, before he reaches the meridian, he will be on the meridian of 25° east; and at the time of a corresponding observation after he has passed the meridian, he will be on that of 65° west: therefore, by the above rule, $25+65=90\div2=45-25=20°$ west longitude, the same as the assumed longitude, for working the example, and of the same name as the largest number of degrees which was pointed out by the longimeter. But when the object, between the times of taking the observations passes over the meridian of 180°, or that meridian directly opposite or under that to which the longimeter is regulated; then add together the longitudes pointed out by the longimeter, subtract the product from 360, halve the remainder, and to this add the smallest number pointed out, and the product will be the ship's longitude uncorrected at the time of the object's passage over the meridian, and it will be of the same name as the least number of degrees pointed out by the longimeter. *Example*—Suppose a ship in the longitude of 153° west of the meridian of Washington, by an observation taken 2 hours, or 30° before he passes the meridian of 123° west, and at the time of a corresponding one in the afternoon, he will be on the meridian of 177° east: therefore, by the above rule, $123+177=300-360=60\div2=30+123=153°$ west longitude.

It is almost unnecessary to state, that if the moon, a planet, or any known fixed star be used, it is only necessary to find the true time of the object's passage over the meridian to which the longimeter is regulated, and adjust a hand to the degree of right ascension which corresponds to the time of the object's passage. Thus, suppose the star aldebaran passes the meridian of Washington 5h. 17m. 34s. P. M. this equals 70° 23′ of right ascension; therefore the place for the hand with the character of a star marked on it, is 70° to the right hand of 0° on the right ascension plate: the hand being thus adjusted, proceed as in the preceding examples: the 23° must be added as a correction. In this way the longitude may be found by observations of almost any heavenly body. The hand with

the character of the moon on it, is intended to be used when she is so; that of a star when a star is used. The other hand may be used for finding the hour at the ship of the longimeter.

The longimeter becomes a Universal Time-keeper, by adapting the principle of that time-piece: and it becomes an astronomical clock, in the same way as that by which the longitude is found by the moon, a planet, or a fixed star.

[*Patented Sept.* 13, 1820.

COMPOSTS FOR SOILS.

BY ANTHONY B. MARTIN.

Take the following articles, or the materials of which they are composed, *viz.*

150lb. Sulphate of lime,
140lb. Carbonate of lime,
10lb. Nitrate of potash,
6lb. Carbonate of potash,
3lb. Muriate of potash,
3lb. Carbonate of soda.

Powder and mix the whole together, vary the proportions according to the nature of the land on which it is to be used, and apply it to the earth for the purpose of improving it, and of increasing the vegetable products thereof.

[*Patented May* 29, 1819.

IMPROVEMENT IN MAKING ORGANS.

BY AARON MERRIL PRASLEY.

This improvement consists in substituting in place of the pipes, usually called reed pipes, a plate of metal, or other fit substance, in which are a number of holes, which I generally make in the form of a parallelogram; but I also make the holes of a variety of other forms; the size of the holes are proportioned to the note to be produced; to each hole is fitted a piece of brass or any other elastic substance capable of vibrating, so as to produce a tone; which piece of brass is fastened to the plate of metal, or in any other manner, so as to vibrate in the hole.

The wind to produce the vibrations and tone may either proceed from the bellows or wind chest outwardly, through the holes in the plate, or be drawn inwards; which last mode is the easiest executed.

[*Patented Nov.* 11, 1818.

HEMLOCK FOR TANNING, &c.

BY JOHN LANSING, JUN.

The tanning principle is extracted and reduced by the process here-in-after described.

The bark is pealed, seasoned and ground in any of the modes already in use; if used without seasoning it is chopped, and so are the twigs. The substances, above mentioned, are put into a metallic or other boiler or reservoir, filled by them without much pressure; water is then poured in such boiler or reservoir to fill it to the brim, and boiled; which boiling is continued until the water is sufficiently saturated, when it is drawn off, other water put in and boiled until the tanning principle has been wholly extracted.

Steam applied in the like manner, to the above described substances, in the mode now in common use, for boiling vegetables with steam for culinary or other purposes, produces a similar effect.

The saturated liquor is passed through a strainer, and slowly evaporated either in the boiler or in shallow pans of large surfaces, to the consistency required.

The extract is soluble in water either hot or cold, which readily converts it into oaze. [*Patented April* 30, 1819.

IMPROVEMENT IN HORSE BOATS.

BY B. AND J. C. LANGDON.

A horizontal cog-wheel, with a central upright shaft, is placed at such point as shall be deemed expedient, upon a line passing lengthwise through the center of the boat. This wheel may be made to revolve by ordinary draft of horses, or other animals passing round its center. Or a floor or rim may be placed upon the extremity of the wheel, or beyond it, as the case may require, of a width sufficient for the walking or treading of the horses, and their harness being fastened to some fixture of the boat they may be drawing and treading the wheel under them, to cause it to revolve. In this case an opening is to be provided in the deck or floor of the boat large enough for the purpose, should the construction of the boat render it necessary. In order to increase the purchase of the draft, the floor or rim upon the wheel may be made to extend to the sides of the boats, or beyond projections, or other appendages being provided for the purpose.

This cog-wheel is to give motion to a second cog-wheel or pinion placed immediately under the shaft of the water-wheels, by means of a chain fitted to the cogs, and made to encircle them both. Or the motion may be effected by means of intermediate cog-wheels, one or more, or cog-wheels and a chain, as the case may require.

To the shaft of this second cog-wheel or pinion, is also to be fixed another cog-wheel, the cogs of which are to mash into the cogs of a wheel upon the shaft of the water-wheels, in order to give motion and effect to the same. By placing a cog-wheel upon the shaft of the water-wheel on

each side of what is here called the second cog-wheel or pinion, the motion of the water-wheels and of the boat may be reversed at pleasure, by throwing the central wheel out of the cogs of one into those of the other, as the case shall require. The diameter of these respective wheels may vary according to the velocity or power required. For an ordinary ferry-boat of a two horse power, the second cog-wheel may be made to perform about sixteen revolutions to one of the first mentioned cog-wheel, and the water-wheels about six to one.

Connected with this machinery, and to give force and equality to the same, may be a fly or balance-wheel, either of a simple ordinary construction, or according to the following description, or the principles embraced in it, *viz.* :—

The shaft of the balance-wheel to be divided into two parts or sections. The lower section, say about one-third the length of the whole, is to be perpendicular. In the top of this section of the shaft is to be a cavity-box or bed, in which the foot of the upper section of the shaft is to rest. The upper section is placed at an inclined plane, of about ten degrees from a perpendicular, more or less. A chain from the first mentioned cog-wheel, or from the second, or a pinion for the purpose upon the same shaft, as shall be most convenient, may be made to operate upon a cog-wheel or pinion attached to the lower section of this shaft of the balance-wheel, so as to give motion and effect to the same. And the lower section by means of cogs, pins, or other appendages, is to give equal motion to the inclined section resting upon it. Thus forming a flexible or socket joint.

Through the inclined vertical section, of the shaft, and at right angles with it, are to be three bars or slides, more or less, (with or without weights at the ends) and of such equal length as judgment or experience may dictate. Under the slides, and attached to the same section of the shaft, should be a wheel with a rim to serve as a rest or support of these slides; under the slides, on either side of the shafts, and attached to the arms of the supporting rim on the wheel, is to be affixed a lever, which, in form of construction, may be made to resemble the trigger to the lock of a musket. The lower limb of this lever is to rest upon the outer edge or upper surface of a smooth horizontal bur-wheel, attached to the lower section of the shaft for that purpose, and revolving with it, while the upper limb of the lever is to be made to operate upon a cog or other projection of the slide, so that in the revolution of both the slides and the bur-wheel, at the point where they approach nearest to each other, the lower limb of the lever resting upon the bur-wheel, causes, by such approximation, the upper limb to press in towards the inclined shaft, by which operation the slides are shoved in and through the shaft, thus lengthening the opposite wing of the slide, which, from the inclined position of the shaft, is necessarily at the point of its greatest elevation. And in its revolution then beginning to descend, an increased power may be produced in proportion to the encreased length of that descending wing; and so of the others, as they successively follow each other in every revolution of the balance-wheel. Or, instead of the slides and rims and levers, a single wing or fly, with a greater or less weight at its outer extremity, may be attached to the lower end of the upper section of the shaft at right angles with it, or otherwise. In which case the said upper section of the shaft, instead of being fixed at an inclined plane, is to receive an oscillating or reverberating motion, corresponding with the revolution by means of a crank in the shaft of the upright wheel, under the shaft of the water-wheels, and of a sweep or pitman communicating from the crank to the top of the upper section of this shaft of the fly or balance wheel. In order that this reverberating motion of the fly, the cog-wheels or pinions, from and by which the revolution is produced, must be of the same dimensions.

The water-wheels may be of an ordinary construction; or, the paddles may be of sheet-iron, or other elastic material; so also the whole of the water-wheel may be of iron. From the upper or inner edge of the paddle, a lining of an equal width with it across the arms of the wheel, may be extended inwards in a culvilinear direction, till it is united with the lining of the next arms, or so far as to prevent the water from breaking over the upper or inner edge of the paddle, and to facilitate the clearing itself from the water.

The boat may be of such dimensions as the business it is designed for, and other circumstances shall require. The sides of that part that goes in the water may be straight or otherwise. Above the water the sides may be made to project in one or more curves from end to end, or otherwise, so as to include the wheel (or wheels, should there be more than one) on which the horses are to tread. A deck or floor may be placed over the boat, so as to cover the machinery, leaving the openings necessary for the horses to tread the wheel.

To change the gears, &c.—The horses being placed at the extremity of the wheel on which they tread, on the projections at each side of the boat, and in boxes or stalls to regulate and protect them, a principle part of the deck or floor will be left unincumbered and free for the passage and accommodation of teams or other freight.

What we claim as our peculiar improvements, and for which we ask a patent, is the

mode of constructing and arranging the different machinery with which the boat is propelled; also the particular construction of the boat; by these improvements much room is saved in the vessel, and the cattle work with more power than in the common mode. [*Patented June 5*, 1819.

DIAL REVOLVING AND UNIVERSAL TIME-KEEPER.

BY JAMES HENRY.

Be it known, that I, the said James Henry, have invented a new and useful improvement, not known or used before, in the making and constructing clocks and watches; which invention I designate by the name of the *Dial Revolving and Universal Time-keeper*, by which time is shewn under every meridian. This invention and the manner of using it is as follows:

This improvement in the construction of clocks and watches, consists in a simple alteration of the internal works or mechanism, and in a totally new construction of the face.

Of the internal works of mechanism.—In this invention the hour wheel is altered to make but one revolution in 24 hours; this alteration is effected, by reducing the pinion of 12 leaves that turns the hour wheel, to half the circumference, and half the number of leaves: being thus reduced, it is evident the hour wheel (on which is carried round the hour hand) will revolve with only half the velocity, and consequently perform but one revolution in 24 hours.

This is the only internal variation of this invention, from the common clock or watch; in all other respects, the internal works are precisely the same.

Construction of the minute and hour dial.—By an inspection of the plan deposited in the Patent Office, which is executed on a large scale, it will be seen, that the face is divided into three parts. That in the center of the face, I call the minute dial, and is divided into sixty equal parts or minutes, as represented in the plan. This dial revolves from left to right, on the same pivot that in common clocks or watches turns the minute hand. It makes a revolution every hour, and by it the minute of the hour is determined.

The hour dial comes next, and is between the minute dial and the plate on which the names of places are inscribed. It is divided into 24 equal parts or hours. Each of these parts is again divided by dots, into 6 equal parts of 10 minutes each, for the purpose of pointing out the minute or the hour under the various meridians, as will be hereafter explained. This dial revolves from left to right, on the pivot that has been altered in the way here-in-before described, and makes a revolution in 24 hours. By this dial the hour is seen under every meridian.

Principle of the invention and construction of the meridian plate.—Next and outwardmost, is the meridian plate, on which are engraved the names of places: this plate is permanently fixed. The principle on which this invention is founded, is that of the apparent motion of the sun round the earth. That luminary appears to make one revolution round the earth, every 24 hours; and therefore produces on every meridian, a noon and a midnight, with all the intervening hours, minutes, and seconds of time. Let the meridian plate of this invention represent the surface of the earth, and let 12 at noon, on the hour dial, represent the sun. Now as the hour dial makes but one revolution in 24 hours, which corresponds to the apparent motion of the sun round the earth, and as the meridian plate represents the surface of the earth; it is evident that the hour dial performs truly, (as far as mechanism can be made to perform) with regard to the meridian plate, the motion which the sun appears to perform with regard to the earth; therefore if the 360° of longitude into which the earth's surface is divided, be marked off on the meridian plate, it is evident, that by a revolution of the hour dial, a noon, midnight and all the intervening hours of time, will be shewn under each and every meridian: and if the name of a place be inscribed, on a corresponding degree of longitude to that which it holds on the earth, it is evident the hour at all times will be shewn at that place.

The meridian plate is divided into 72 equal parts, each equal to 5° of longitude. Washington is the first meridian, and on every part east and west of it to the 180° of longitude, is inserted the name of some place, whose longitude on the earth corresponds to that degree of longitude on which it is written on the meridian plate. I call 180° or 36 parts to the right hand of the first meridian of Washington, west longitude, and the same number to the left hand, east longitude. By a Gazetteer I find the longitude of any place I wish to insert on the meridian plate; and write its name on the corresponding degree of longitude marked off on the meridian plate. Thus, Bahia is situated in 35° east, I write it on the *7th* part to the left or east of Washington, for as every part equals 5°, $7 \times 5 = 35°$ the situation on the meridian plate for Bahia. In this way the meridian plate is formed

To find the true place on the meridian plate, divide the said plate into 360 equal parts, and let each part represent a degree of longitude: from any given meridian, as Washington, Greenwich, Paris, or any other laid down as a first meridian, call 180° to the right hand of the given meridian, west longitude, and the same number

of degrees to the left hand, call east longitude. In a gazetteer, find the longitude of the place to be inserted on the meridian plate, and whatever its longitude is east or west, insert the name of the place on its corresponding degree of longitude, east or west, marked off on the meridian plate.

Manner of using.—Let the first meridian be Washington. To find the hour there, I look on the hour dial opposite that meridian, and whatever hour appears is the hour of the day: for the minutes of the hours I look in the same way. Thus, if it be 12 at noon on the hour dial, and 0 on the minute dial, are under the meridian of Washington. The piece of white paper attached to the meridian plate is intended to represent a hand that may be moved round and fastened at any meridian. It ought to be fixed over that meridian under which the person wearing the watch lives: thus a person at Washington would place it over that meridian; one living at London would place it over London, and the same of any other place. To find the hours under any meridian, different from that in which I live, I look what figure on the hour dial is under that meridian, and that is the hour. Suppose the hour at Washington to be 6 past meridian; it is then 12 at night at Naples; 20 minutes after at Warsaw; 20 minutes after 1 in Jerusalem; 6 at Batavia; and 7 in the morning at Nankin; 12 at noon at Necker's Isle; 1 at Otaheite; wants 20 minutes of 2 at the Marqueses Isles; and is five in the evening at New Orleans. Each dot on the hour dial counts 10 minutes. Suppose the hour to be 12 at night at Washington, it is 20 minutes after at Quebec, because the second dot on the hour dial is opposite that place, and as every dot counts $10 \times 2 = 20$ minutes; it is 40 minutes after 4 in the morning at St. Helena; and 20 minutes after 10 in the morning at Madras. In this way the time is to be told at all places.

A clock or watch face, might also be constructed on the principle of the real diurnal motion of the earth on its axis, that would answer the same purpose. The meridian plate, would then become the hour dial, and the hour dial would represent the meridian plate. But the adoption of this principle would occasion several inconveniences. As the meridian plate with the degrees of longitude marked on it, as well as the names of the places would revolve on the hour wheel, a person looking for the time under various meridians would find it necessary to turn his watch several different ways before he could attain his object; and instead of a minute, a minute hand would be requisite to determine the minute of the hour.

A clock or watch face may be laid off on either of these principles with equal facility. But for neatness, convenience, and beauty, I consider the first plan much the best. [*Patented Sept.* 13, 1820.

COCK FOR DRAWING FLUIDS.

BY EBEN. HUBBALL.

This improvement consists in making a screw piston, placed either in a vertical or horizontal position, to the end of the cock, made of the usual form of metal or wood. This piston, having either a sharp or square thread to the screw part, has at its end a plate fitted to the chamber of the cock, (in which the piston works) to which is affixed a plate of thick sole leather, or other elastic substance, secured by a screw which when the piston is screwed up hard, lies against a margin or seat, and closes the aperture through which the fluid passes; this aperture, closed by the end of the piston, is situated just back of the mouth piece of the cock. The intention of the leather or other elastic substanse at the end of the screw piston is to act as stuffing to secure the cock from leakage. In proportioning the thickness of the sides of these cocks, which may be made either of metal or wood, reference must be had to the pressure or head of the fluid issuing through them. [*Patented Oct.* 4, 1820.

A MACHINE FOR PROPELLING BOATS,

And for operating on Mills and Machinery.

BY JAMES PRINCE.

The primary object and effect of which is, to keep the paddles always vertical in their revolutions, and to give no other than a horizontal impulse to the water.

It is properly two wheels of equal size, coupled, or connected by means of cranks, or by rods, having two distinct centers or axis; but revolving in unison around their respective centers, one being driven by the other in consequence of the connexion of the cranks, or rods, (as the case may be.) The difference between the distance or height of the parallel shafts of two wheels, always corresponding with the length of the cranks, or rods, between the places of connexion in the two. On the shaft of the water-wheel, outside of the boats, are arms, as in the common method, through the end of each pair of parallel arms, is placed a shaft running horizontally, and having its bearing on boxes. These shafts, outside of the arms, are turned, and form so many cranks. These are supported perpendicularly from their bearing in the arms, by means of other arms, having a common center, and revolving around a fixed axis, as much above that of the main shaft as the length of the cranks between the two. The paddles are fastened on the crank shafts between the arms, parallel with the

former, (though any angle may be given to the paddles by varying them from a direct line with the cranks.) The difference in the height of the two parts of the wheel always corresponding with the length of the cranks, or connecting rods

The main shaft which will extend but a short distance beyond the arms which it supports, may have a stay and bearing for its end to run in between the two wheels, by means of an iron, supported by the upper and outside shaft, which is stationary, while the lower one revolves with the arms.

Where the pivots of the cranks go through the outside arms, they may be encompassed with rollers. Instead of arms, as described, on both shafts, there may be planes.

Operation—When power is applied to the main shaft, its revolution causes a correspondent one of the outside arms, by means of the coupling by the cranks, and the latter, as well as the paddle, always move vertically. They can never swerve from their regular revolutions, as they all have their proper centers and supports. The periphery of the outside arms, or planes, may be made heavy, to act as a fly-wheel if necessary

[*Patented Oct.* 2, 1820.

HOLLOW OR GUTTER-BARRED GRIDIRONS,

With Reflectors and Dripping Pans.

BY THOMAS MUSSEY.

All the bars, or all except those on the outside, are made of nail-plate, or any kind of rolled iron of a proper thickness, cut into strips, about half an inch wide, and of a length according to the size of the gridirons: those on the outside may be made of wire, either drawn or rolled, or of nail-rods. The bars should be tennoned, to fit them for the holes of the end pieces, the operation being performed by a die or cutter, which takes off small pieces from the sides of each end of the bars, to form the tennon; or they may be put in without being tennoned; but that weakens the work.

The operation of hollowing the bars is performed by a swedge, which consists of two pieces of metal, one of them having a cylindrical groove in one of its sides, to give the intended shape to the bars, and is generally stationary; the other piece being a counterpart or follower, which, being forced into the groove on the flat bar, gives it a hollow shape, like the small longitudinal section of a cylinder. The same effect may be produced by rollers, one being grooved, the other having corresponding risings, working into these grooves, so that by running a plate or plates between them, they become cylindrically hollowed; and by attaching slitting rollers to them, any number of bars may be split and swedged at one operation. The end pieces are made of rolled iron slit, of a proper width; or they may be cut from thick plates into strips, requiring only to be separated into pieces, according to the size of the gridiron; and to have the legs forged and turned by a blacksmith, or they may be entirely formed by cutting, the leg of one piece being cut from a leg of another, so that the smith has only to bend them into proper shape.

In all cases the front legs must be made longer than those next the handle, which will cause the gravey to descend into the dripping-pan. The punching of the end-pieces to receive the bars may be performed while the iron is cold, by a gouge or cutting punch, as follows:—a punch is prepared, adapted to the size and shape of the tennons of the bars, and made to work accurately into a receiving bed of tempered metal, with a hole through it, just large enough to receive the punch, so that as the punch passes through the iron, it drives a small piece through the receiving bed, leaving the punched hole smooth on all its sides. and by placing a number of punches in a frame, at proper distances apart, a number of holes may be punched at one operation. All the hollow bars must be perforated at the ends next the handle, to admit the gravey into the dripping-pan; the process of punching is similar to that of the end-pieces.

Under the hinder part of the gridiron is placed a dripping-pan, made of tin-plate, brass or copper, extending from one leg to the other, to catch the gravey from the bars, having a handle at the center, directly under the handle of the gridiron, and is secured by wire-hooks, made fast in the hind end-piece. the hooks being bent down under the pan, so that it may be taken out and put in at pleasure. Also in the hind end piece, near the turn of the legs, are staples, to receive and secure the feet of a reflector.

The reflector is made of a bright tin-plate, or any other kind of bright or polished metal, calculated to reflect heat, having a handle on the backside, by which it is taken out and put into its place at pleasure. It stands on the hind part of the gridirons, supported by staples, and in such a position, as to reflect the heat of the fire in front directly on the meat, to expedite the process of boiling.

As an additional and very essential improvement in the manufacture of gridirons, the end-pieces may be made of cast-iron, or any other kind of cast-metal, cast on to wrought-iron bars; the bars being prepared in the manner heretofore described, except it be necessary to tennon the ends. The following is the process for casting

end-pieces on to wrought-iron bars, *viz.* Take founder's flasks of a size adapted to the gridirons to be made, with a piece of wood about one inch square, extending lengthwise or across the flask, and made fast to it, according to the position of the pattern, and directly over it, having indentations of the size of the bars, and about one inch apart A longitudinal section of the pattern is then made fast to the moulding-board, having holes in it about three-eighths of an inch deep, to receive the ends of the bars, the board having guide-pins to bring the pattern always into the same position in the flask; the board with the section of the pattern being placed under the flask, and the bars placed in the holes in the pattern, and secured by the indented piece, so as to keep them firm, and at right angles with the pattern, the sand is then forced hard into the flask, round the bars, until the flask is full, when it is turned over, and the board and pattern drawn, which leave an impression in the sand, with the ends of the bars projecting into it about three-eighths of an inch. The other section is fastened to another flask board, and so adjusted to the other half of the flask, that when it is moulded and drawn, and the two parts of the flask put together, the cavities exactly match. What remains, is simply to turn in the metal, and a smooth solid end-piece is produced, which shrinks so firmly round the ends of the bars, as to prevent their becoming loose, or the salt and juices of the meat, from penetrating and corroding them. After one end-piece is cast on, the bars are inverted and placed in another flask, having a pattern suitable for the other end-piece, which is moulded in the same manner as before described. The hooks to support the dripping-pan, the staples which support the reflectors, and the rivets for securing the handles, are all cast firmly into the hind end-piece. The handles are made of wrought iron, and riveted or screwed to the gridirons.

The patentee does not claim the invention of hollow-barred gridirons, made entirely with the hammer, at the common smith's forge; for he has good reason to believe such a thing has been partially done before, having seen one with square bars, grooved on the upper side, to collect the gravey: but he claims the improvement in the manufacture by the use of rolled iron for the bars and end-pieces, where wrought-iron is entirely used: however, the process of making may be varied. He also claims the principle of hollowing the bars by the swedge, as well as the application of the gouge on the cutting punch, working into a receiving bed, whether it be worked as a press punch, or by the hammer. The improvement in the application of cast end-prices, where the gridirons are square, and of cast rims where they are round, to wrought-iron bars. Also, reflectors to all kinds of gridirons, whatever may be the manner of making them; and the use of tin-plate dripping-pans, he claims as entirely new and original.

[*Patented March* 6, 1820.

INVENTION FOR CATCHING FISH.

BY ASHAEL BALEY.

This invention consists of a platform or float, constructed of plank or timbers covered with planks, covering any space of water that may be wished.

This float has two or more windlasses with ropes or hawsers, having each an anchor, the object of which is to change the front of the float to any given point. Upon this platform a house may be erected, and every convenience for keeping alive and cleaning the fish, as well as for all the ordinary purposes of life. The principle of the float is not claimed, but only this modification.

To the front of this platform an apron is attached on hinges or chains, which is made of any size that may be required, according to the depth of water, or the extent of the fishery. It is constructed with slats, braces and ties, the slats being so far apart only as to allow the water to pass through, and prevent the passage of the fish intended to be caught. The apron is flaring from its extreme front inwards, and has at each corner a post or posts which turn on pivots, that the seine rope may readily play thereon. Under this apron, near the front edge, is a pulley or block through which the anchor cable passes, and the apron-anchor is attached thereto, the other end of which is wound round a windlass fixed for the purpose on the platform. From the platform to these posts a gangway may be built, to enable a person to walk from the one to the other. This modification only of the apron or inclined plane is claimed. When the machine is fixed in a river or bay for fishing, a seine is laid in the usual way with boats, and this apron serves the purpose of a shore for hauling it in; being, by means of the anchor, sunk with its front edge to the bottom, and thus forming a regular inclined plane. The anchors are to be of the proper weight to hold the machine, and may be of stone or iron. The apron may be covered with seine instead of slats.

IMPROVED WIND MILL.

BY JAMES BARRON.

The superiority of this mill over that of any other heretofore in use, consists chiefly in its possessing greater power, and admits of its being constructed of materials so light and inconsiderable, that every farmer may (independent of

the sails and stones) at a triffling expence, have his own mill. As there is no necessity for a piece of scantling, the main shaft, moveable house-top, sill, and tail-tree excepted, larger than six inches diameter, or longer than twelve feet, in a mill capable of driving a pair of three feet six inch stones with the greatest velocity, a mill thirty six feet high; or the main shaft thirty feet from the ground, will possess sufficient power to drive four pair of four feet six inch stones, and all the bolting machinery. But my object in introducing this mill into the United States, is to enable every farmer, or at least every three or four, to have their own mill, and thereby to have their corn ground, when and how they please. The small mill will therefore be found to be the most useful, as any common carpenter, or any person accustomed to the use of tools, can perform the principle part of the work. This mill is an improvement on the Lisbon mill. The vanes are fitted on the sides of the shaft, and the shaft may consequently be constructed of four small pieces of timber, as the vanes rather bind together than separate the shaft, as they do in the Lisbon mills, where the vanes are morticed through the shaft. The number of mortice holes necessary to admit so many vanes, renders it requisite to have a very large shaft, and consequently all the other scantling must be large to support it, and this mill becomes unwieldy and expensive; whereas, by this improvement it is rendered light and manageable; and one of those mills that will grind one hundred bushels of corn in 24 hours, can be completed for little more than a common pigeon-house. The advantages of the furling machinery are very great, but the mill on the small plan may do very well without it, as the sails may be reefed by turning them once round the sail vane, and continued as often as necessary.

The advantages of those mills are very great, and admit of a variety of applications to useful purposes on farms; by setting one on the top of the barn it would perform all the heavy labour that is done within doors, such as grinding, thrashing and sawing, &c. Where it is necessary to build the mill large, and use the furling machinery, the sheet-vane should be made a little longer than that in the model, so that the sheet may, to a certainty, roll on the end of the end of the sail-vane, without the screw, as it now stands, which is susceptible of some difficulties, but by making the sheet-vane longer, the sheet will roll with certainty between the two risings on the ends of the sail-vane, and will be found more simple.

The vanes should be proportionably heavy, as it causes the mill to move with more regularity in light and unsteady winds. The mortising of the shaft would render this an almost useless structure, as it cuts every part of the grain of the timber, and consequently requires much strengthening by hoops, dove tails, bolts, &c.

A mill that has a vane of ten feet long, clear of the shaft, possesses the power of eight men. This I have proved by experiment; consequently a mill of the following dimensions will possess that power, and will shew at one glance how triffling an expence will afford this great advantage. The frame of the cap, or top of the mill, should have wooden rollers of about three inches diameter, two feet apart, fitted into it, and roll round the circular frame on the top of the corner posts of the mill house, and when the mill stands on the ground, a common tail-tree is the best mode of moving her to the wind; but if set on the top of a house, there must necessarily be a cog-work round on the top, besides, the rollers which may be worked by a rope passing round the barrels of the stationary trundle head that is fixed to the cap of the mill, it is common to have a kind of sail to answer that purpose; but in a country subject to such frequent and violent squalls, as the United States, this plan should be avoided. A mill house 11 feet high to the top of the circular frame, and eight corner posts, will raise the main shaft 12 feet from the ground, by the help of the shaft sill of the cap: this will give vanes 10 feet long, and 2 feet clear of the ground. The diameter of the house on the ground 8 feet, and 6 feet at the top, will admit of sufficient room to double geer the mill, in the following manner, *viz.* on the main shaft there may be a cog-face-wheel of 4 feet to work on the trundle-head, on the upper end of the upright shaft; one foot six inches on the lower part of this upright shaft, a spur cog-wheel of four feet may be placed to operate on the trundle-head 14 inches that is immediately connected with the stones: this gearing will give a rapid motion to the stones, which are to lay two or three feet above the ground floor, the upright shaft will consequently be about 7 or 8 feet long: the sheet

of the sail should always be tightened at the clew: when the furling machinery is used, the canvas must be of the heaviest kind, and should be middle seamed: light canvas will not answer. There should be four pieces of knee timber attached to the inside of the moveable top of the mill, to prevent its flying off, and the rollers will cause this top to move round lightly on the mill-house, which prevents the house from being jarred and wrecked.

For the purpose of sawing timber this mill will be found very useful. The distance between the sail-vanes and sheet-vanes should be 18 inches or two feet, in a mill twelve feet high, and four feet apart in a mill thirty feet high; and so on in proportion for any other size. The sheet-vanes should be as near the house as possible, only allowing room for the furling machinery when it is used. When this mill is used on the largest size, the stones must be laid on the second floor, and the bolting machinery on the first or lower floor. The main shaft should traverse in a square, and not in a round hole, as it lessens the friction. Iron plates on the sill of the moveable top, and common dogs in the throat of the shaft answer every purpose. The inner end must run on an iron gudgeon or spindle

The small mills may be of two descriptions; that is, half or three-quarter mills. What is understood by the half mill is, when the sheet-vane stands exactly half the distance between the two sail-vanes, and admits of one half, the whole space being filled up with canvas. The three-quarter mill is that which has its sheet-vane at three-fourths the two sail-vanes, and nearly fills or two-thirds of the distance between up the whole space. In this application of the sails, the sheet-vanes must be considerably longer, say 3 or 4 feet.

The advantages that these mills possess in violent storms are obvious, as they only present bare round poles to the wind, and have no disposition to turn, whereas the raft vanes are often blown away, and must be constantly attended to, to prevent it, while these mills remain as safe as any other house. The furling machinery is very simple when understood, and very little attention is necessary to comprehend its utility. The sails are reefed to any size while the mill is going, or entirely furled; and reefs turned out, and the sail completely set, all by the operation of hauling on a rope. This advantage needs no commendation, it must be obvious to every person that ever had any concern in a wind mill; four rounds of the vanes furls the sail completely. The simplest mills in the United States cost from 3 to 500 dollars; mills constructed on the principle now recommended, will possess equal power, and may be constructed for one-fourth of the expence. In any of these mills when the vanes do not exceed 10 and 12 feet, the sails may be constructed of thin boards.

They will be found to answer very well, and may be attached and detached with ease and convenience, by shipping and unshipping them in the simple manner of a boat's rudder, only using a spring forelock at the end of the sail to secure it as it moves round. These wooden sails may be reefed by unshipping one or more of them as occasion requires: the vane being supported by a rope to the end of the projecting shaft, there is but little danger of their giving way. Those mills may also be built with 10 or 12 vanes, which will entirely fill up the space with canvas, and present a surface to the wind much greater than any other ever in use heretofore. The machinery for geering the furling of the sails is attached to the shaft sill of the moveable mill top, as shewn in the model.

[*Patented July* 18, 1816.

See Plate No. 11.

IMPROVEMENT IN THE PLOUGH.

BY R. L. STEVENS AND E. A. STEVENS.

These improvements consist in the following particulars:—

1*st.* Reducing the weight and increasing the strength of the mould board of the plough —This object is effected by casting projecting ribs on the interior surface of the mould-board. These ribs cross each other nearly in horizontal and perpendicular directions, and also pass round the extremities of the mould-board.

The *Second* improvement consists in preventing the handles of the plough from spreading apart. This is effected by means of a small iron rod passing through the handles contiguous to one of the rings.

The *Third* improvement consists in attaching the lesser handle to the inner surface of the mould-board in a permanent manner. This is effected by means of four projections or ears, two of which are placed at the upper edge, and two near the lower edge of the mould-board, between which projections or ears the handle is confined and fastened to the mould-board, by means of two screw bolts passing through the same. [*Patented Sept* 20, 1820.

BOILING SALT WATER,

And Converting it into Salt, by the agency of Metal Tubes and Wooden Cisterns, applied to Pans or Kettles, set in the usual way in a furnace.

BY OSBORN PARSONS.

This improvement consists in placing metal tubes across the furnace, two inches more or less below the bottom of the metal pans, (when they are used,) each end of the said tubes extending through the walls on each side of the furnace, and through the sides of the wooden cisterns placed on each side of the furnace, and metal pans, two inches above the bottom of the wooden cisterns. The said metal tubes may be six inches in diameter more or less, eight feet long more or less, according to circumstances, and open at both extremities. The cisterns may be four feet broad more or less, and their length governed by the length of the furnace, leaving sufficient room for the supplying of fuel. The bottom of the cisterns must be ten inches more or less below the bottom of the pans, and the tops of the cisterns equal to the top of the curb on the metal pans. There may be a communication at three different places in the sides of the metal pans, by means of three two inch metal tubes on each side of the metal pans, forming a communication with the water in the pans and cisterns, through the walls of the furnace and sides of the cisterns and pans, for the purpose of forming an equal surface of water in each of the vessels.

This principle may be applied also to the boiling of salt with kettles, by placing metal tubes between each kettle, or pair of kettles, and through the furnace as above described. But as it will be inconvenient to make a communication through the sides of the kettles, the wooden cisterns may rise above the top of the kettles, and the water introduced into them from the cisterns by means of stop cocks, or there may be a communication through the sides of the kettles, the same as the pans.

When the brine requires purifying, it may be settled or filtered through sand.

The improvement of metal tubes and wooden cisterns, applied to boiling of salt, is a saving of fuel, labour, pans or kettles, grates and furnaces, which arrangement and application, I claim as my improvements, and which I put in operation.

[*Patented April* 4, 1820.

See Plate No. 12.

THRASHING MACHINE.

BY ASA SHETTUCK.

The frame is erected on two sticks of timber or sills, about seven inches square, and long enough to be placed on the girders of the building in which the machine is to be placed, and for convenience the girders should be six feet high. The sills are placed two feet distant from each other when six beaters are intended to be used, or about four inches to every beater that is intended to be put in motion. About nine feet from the end of the sills is a girder, to confine the sills at their intended distance. At each end of this girder is a post erected, about five feet high, confined at the top with a cap, between this cap and the girder is placed five guides, when six beaters are used, or one in each space between the beaters, they stand perpendicular, are straight on the sides, about three inches wide, and one inch and a half thick at the bottom, to about one foot above the sides of the floor, then they project one inch and one fourth towards the highest end of the floor. About four feet from those, or the intended width of the floor, are two more posts, about four feet and a half high, confined at the top with a girder, and to the other posts with two more girders. Between these posts and across the sills the floor is placed, made of plank about three inches thick. One end of the floor is laid on the sill, the other end on a girder about nine inches above the other sill. The floor extends three inches beyond the sill at the lowest end, and about two feet and a half beyond the sill of the highest end, and one inch and a half between the posts, on each side. Between the posts on each side of the floor is placed a piece of plank one inch and a half thick, and four inches wide, let into the posts and made fast to the floor. Across this floor and between the guides are placed planks for beaters: they are about one inch and one fourth thick, one foot wide and about seventeen feet long. They extend about one foot and five inches beyond the guides. The remainder of the beaters extend the other way, and the ends are hung on a pivot between two posts, where the sills are confined with a girder. These posts are confined at the top with a cap, between this cap and the girder are placed guides to fill the space between the beaters, through which a pivot passes, on which the beaters hang. Where these beaters cross the side pieces of the floor they are cut in so as to let them to the floor. The end that passes beyond the guides are bevelled on the lower edge by the one that strikes on the highest end of the floor. In each space between where these beaters strike and slip on the floor, are placed pieces of hard wood, two inches wide, about five eighths of an inch thick, on one side, and the other side chamfered to an edge, extending the whole width of he floor. The beaters are raised by arms placed in a shaft. This shaft is about seven inches in diameter, placed cross ways above the sills, about six inches from the end of the beaters, and two inches

higher than the under edge of the beaters, extends about six inches beyond the sill at the lowest end of the floor, turns on pivots, placed in spars for that purpose. Close to the end of this shaft is a wheel about three feet in diameter for a band. Opposite the end of each beater are placed two arms. These arms each vary from standing on two straight lines, the twelfth part of the circumference of the shaft, so that the beaters all rise and fall successively twice while the shaft turns round once. About six feet from the other end of this shaft is a wheel about two feet and ten inches diameter, with about 30 cogs in its out edge. This wheel is put in motion by another wheel about 2 feet in diameter, placed horizontally on a perpendicular shaft, with the cogs on the upper side, so as to play between the cogs on the other wheel. The bottom of this shaft turns in a wooden box at the top in a spar, where the end of the other shaft is placed. About 3 feet from the bottom of this shaft, is placed two levers about 6 feet long, spread the fourth part of a circle from each other. Between the ends of these levers the horse is harnesed to put the machine in motion. When this machine is put in motion by water, the water wheel is placed horizontally, near the bottom of the perpendicular shaft, about seven feet in diameter. The horizontal cog wheel at the top of this shaft is about four feet, the the cog wheel on the arm shaft about four feet and a half.

The shieves of grain are unbound, and spread on the upper end of the floor. When the beaters rise, the upper one strikes it first, draws it towards the next, so that they all strike it successively. Under the lower end of the floor is a riddle the whole width of the floor. This riddle is made of thin boards, about 12 inches long, framed about half an inch distant from each other. The straw slides over this riddle down on a slide for that purpose. The grain falls through into a slide that conveys it into the hopper of a winnowing mill placed under the floor, and confined by two posts tenanted into the under side of the sill, on each side of the slide. The winnowing mill is put in operation by a band that is placed round the wheel on the arm shaft, and round a whirl on the fan-shaft of the winnowing mill. [*Patented Aug.* 23, 1820.

IMPROVEMENT ON KEYED WIND INSTRUMENTS OF MUSIC,

Particularly in giving what is called the swell to the tones.

BY CHARLES POMMER.

I increase or diminish the strength of the tones so as to produce a swell, and the contrary, and give the forte or the piano at pleasure, either suddenly or gradually, in a very sweet manner, resembling the swell of the Eolean harp. My improvement is peculiarly applicable to those instruments in which the tones are produced by means of elastic metallic tongues, which are made to vibrate by a current of air striking them in its passage through grooves which the tongues cover. If a current of air is given by bellows of the common construction for organs, there will be but one uniform tone to each note, without that beautiful swell so much admired in the forte, and destitute of that delicate soft tone which is so delightful in piano passages. But by my improvement, the performer may manage the swell at pleasure; may gradually increase it as if wafted on the swelling breeze, or let it die away like the gentle expiring zephyr. My improvement consists principally in applying two single, instead of one double bellows. In the double bellows used in organs, the middle partition board is fixed immoveably to the case or frame of the instrument, with a valve on it, opening into the upper compartment; so that when the bottom board is worked, the wind forces up the upper board, which, being pressed down by a weight, gives a steady stream of air to the wind chest, but can produce no swell. Instead of the above, or in addition to it, I place two bellows of a single construction in such a position, that they may be worked alternately, or both at the same time. The upper boards or backs of these bellows are fixed stationary to two ribs or supporters, which are connected with the case of the instrument, whilst the belly or under boards move in working them. There may be one or more folds in the ribs, for working these bellows. I have a clamp or clasp, made of iron or other suitabl substance, which passing over the top and down each side, with a return, grasps the bottom-board of the bellows. One of these is connected with each of the bellows, so that when the clasp is drawn upwards it raises the bottom board, and thus works the bellows. On the upper fixed board I have a post or stud placed to support the fulcrum of a lever, one end of which raises the clamp to work the bellows, and the other end is connected by a cord, chain, strap or rod, with the pedal. Or, instead of a simple or compound lever, I have an arc on one end of the lever, over which a cord or chain passes to the clamp, and is attached to it. Or instead of this I have

a wheel or wheels, a pully or pullies, over which the cord, strap or chain passes from the clamp to the pedal. Or the bellows may be worked by a rod, strap, &c. rising from the end of the bellows, and uniting with the lever, arc or wheel; or in any other way which is most convenient, or which will effectually accomplish the end designed.

There may be two or more bellows, with two or more pedals, if required. The fixed upper board of the bellows, would be better to stand in an inclined position, to an angle of about thirty degrees. more or less, according to the number of folds in the ribs, or width which the bellows open, the under board or belly being in a horizontal position when fully open. It must be seen, that these bellows being single, and having no upper compartment for the wind to pass into, and consequently not pressed out by the uniform force of a weight; may be forced against the tongues with increased or diminished strength, at the will of the performer, so as to produce the swell, or the contrary—and having two of these bellows with a pedal to each, the action of the air may be kept up. If it is desired to play with uniform tunes, without the swell, there may be an additional bellows, similar to those of the organs.

Patented, August 30, 1819

From Tilloch's (London) Philosophical Magazine.

THE DRY ROT IN TIMBER.——*BY T. H. PASLEY, ESQ.*

The following principles, it is presumable, will elucidate wherein the cause and possible preventive of dry-rot in timber exist, in a more rational point of view than has hitherto appeared on this highly interesting subject. The millions which this species of expenditure draws from the public purse annually, make it an object of serious concern to all ranks in society, to assist in undermining the common enemy; and there is every prospect that much may yet be effected. The enquiry has hitherto not been confined to mechanics, who have done but little towards removing the evil (the best constructed ships not being impervious to the dry-rot) and less in discovering wherein the cause of the evil consists; as the subject, although not the most inviting of philosophy, is now acknowledged to be worthy the attention of the most enlighted chemists of the day.

First then, as repects the physical constitution of timber, it is a fact, that timber and all other ponderable bodies contain the element of flame in them, in quantity equal to the weight of each. Hence it is, that the flame is obtained from all kinds of fuel.—Chemical elements which are imponderable, and flame, which constitue their ponderable base, are the only constituents of which all manner of terrestrial bodies are formed. As bodies part with the former, they suffer no change of weight; but flame is never evolved but what the body parting with it becomes lighter. As then the ponderable base of bodies consists of flame, all bodies, without exception contain it, altho' it is not obtained from all with equal facility. As the ponderable base of wood, flame exists in that species of compound matter in as harmless a state as in inflammable gas, which may have been obtained from ice, or which amounts to the same thing, from the decomposed water of melted ice. In consequence of the *attractive powers of flame* it is, that flame is never naturally uncombined; that it recombines immediately when set free by art; that it is always surrounded by one species of chemical elements or other, as is the case with a piece of wood or stone: from a piece of wood take the chemical elements away and the flame only remains.

These things being premised, dry-rotted wood manifestly presents the phenomenon of wood which has somehow been deprived of its gravitating base; or of so much internal flame, as equals the loss in weight which the wood has suffered. The strength only of the wood with the weight is gone; whereas what relates to the form, bulk and grain, are in all respects perfectly unaltered. The remaining timber, although it may be immense in volume, is comparatively devoid of all weight; and there is no kind of fuel whatever, it is well known, which yields less flame than dry-rotted wood. It may be concluded, therefore, that the loss of the element of flame, which is the ponderable base, is the cause of the wood losing its strength and weight; *which constitutes the dry-rot.* The same thing happens also with other than woody substances. The human body, upon opening sepulchres, is found to consist of an impalpable powder only, which retains the original form of the body, but drops upon the admission of air, or on the slightest touch, and might with ease be compressed into a nut shell.

The process which brings this state of the wood or timber about, is connected with principles which show, *that a species of galvanic circulation takes place* between the wood and the medium of air by which it is surrounded; or between the wood and the solid body with which the wood may be in contact.

It is the admitted fact, that without humidity in the wood, there is no dry-rot to be apprehended; neither is there any circulation in the galvanic pile, when dryness prevails. Two pieces of wood in the closest contact, induce no circulation thro' them, if both or either of them remain perfectly dry—nor does any dry piece of wood give out its gravitating base, when in contact with a humid piece, unless it receives humidity from the latter. Hence it is, that sound and rotted wood are found united; and that wood which has been considered impervious to dry-rot, has fallen a sudden martyr to it, by being in contact with wood of a different kind, or in a different state.

Different kinds of wood in close contact, and containing moisture, are more likely to act on each other, and with greater energy, after the manner of the galvanic plates, than pieces of the same species—still, as no two pieces of wood are perfectly alike, where there are moisture and contact, galvanic, or, in this case it may be said, *dry-rot circulation* inevitably takes place between them. Humidity or moisture acts, by assimilating the particles of its *gravitating* base, with those of the gravitating base of the wood; so that when the external air is of such a nature as to attract any of these particles, or to attract any element to which they may be united, the wood and water together part with their common gravitating element. The consequence of which is, that the water being decomposed disappears, and the wood has lost its ponderable base. Hence it is obvious, how it is that water is indispensable to promote dry-rot: why its decomposition is to be guarded against; and why wood, when dry-rotted, is always perfectly free from water, and always devoid of weight.

The medium of air, which surrounds wood wholly or in part, is as much accessary to dry-rot circulation, as it is to that of the galvanic pile. In the latter case, chemical elements are alone given off, and oxygen gas promotes the circulation—whereas with wood, the air in which oxygen is deficient favours circulation best; and it likewise is the contrary or ponderable base only which escapes. The medium of air which makes *fungi* shoot, cannot but be the means of exciting dry-rot circulation; sometimes, as the formation of *fungi* depends on the nature of the juices of the wood, these formations may contribute to the rot by assisting circulation at its commencement—but without *fungus* appearing at all times or being any way indispensable, dry-rot circulation may take place.

The PREVENTIVE to dry-rot circulation, it follows, consists in *insulating every piece of timber*, or surrounding it like a gate post, with a medium similar to atmospheric air; or by both applications, according to the situation of the piece. In general, those parts only of the surfaces of the wood which are in contact, and those which are in contact with confined air, are such as have the rot, and for limited distances; which show the mutual action which prevails, where it originates, and the direction it takes; also the medium which favours the circulation, and that which does not excite it. Every piece of timber should be insulated from another, by means of *some non-attracting* dise being fixed between. No single or insulated piece will ever be found capable of galvanising itself. The insulating matter should be such as cannot be readily removed or rubbed away, as is the case with unctuous substances. Wherever confined air may have an opportunity to remain, it should be kept out; as we find light wainscots rot on the wall side, having confined air, or air deficient of oxygen between—whereas in buildings, all kinds of woodwork are preserved, that are deprived of this deleterious medium by being imbedded in mortar. For which reason, the recent experiment of applying solidifying substances in openings will doubtless be found highly beneficial. These regulations it is manifest are unnecessary, if water can be kept out of wood, or preserved when in it, in the compound state. The cause and preventive in the *dry way* having been pointed out, it may be possible also to arrive at the same object, the retention of the gravitating base, by the *humid way*, and upon principles which are common to both.

Cheap acids might be injected into wood for the purpose of keeping all internal juices proof against being decomposed. The Manner is simply this:—As *fire attracts*, boiled wood is necessarily rendered in a minus or deficient state, by the act of boiling. In that deficient or spongy state, it should be thrown *from the hot boiling kiln into the cold preserving mixture*, in order to absorb *indecomposable* moisture; which in time, by combining with the wood, would contribute to its strength, so far as to prevent the premature loss of the gravitating base, which is always at the expense of the strength of that which it parts from.

Lastly, to preserve a proper medium next the timbers, between the lower decks, and to keep away one which is conducive to dry-rot circulation, there can be nothing better done, than to introduce as a permanent fixture, a condencing pump into each ship's bottom. Air in this situation is to atmospheric air, as 1.5 to 1 in weight—therefore pure air, introduced by windsails and the like, may dilute, but cannot remove this species of deleterious air out of a ship. To pump it downwards, and after the manner a double levered fire-engine is worked, must necessarily get rid of all impure air, from every hole and opening in the orlop, as well as from every sick birth, to which the suction hose, which

may be of any length, may be introduced; and pure air must instantly occupy the place of that which has been pumped out. The resistance to be overcome in all cases, will be precisely that of a column of water, equal in height to the ship's draught at the time, which can never be more than equal to one-fourth the resistance which a fire-engine surmounts, when it throws water only one hundred feet in the air. So that there is nothing more practicable; and as to conducing to the health of the crew, and the ship's duribility, the benefit may be infinite, and the expense saved annually of the most serious amount.

Dry-rot and combustion appear to be precisely the reverse of each other. In the former, it is the flame or ponderable base which is attracted, and what is chemical alone is left—whereas in combustion, flame only is left, every thing chemical being attracted from it. That which attracts flame from wood, combines with it at the same time, which is the reason of its escape in the dry rot process being unattended with luminousness.

From the opinions in circulation on this subject, which puzzle rather than improve, I feel the more anxious to give publicity to the foregoing, being persuaded that they have a more direct tendency to prevent dry-rot, than any which have hitherto been advanced or acted on. Besides, it is no more than laudable to maintain one's own right of originality to what may prove highly correct and useful, at a time when honours and medals are awarded those, who, after all have done nothing for the public, but overload them with expensive and voluminous accounts transcribed from official records. What I now advance is in strict conformity with the theory I published in February, 1815, wherein the dry-rot is attributed to the decomposition of water in wood—at which time it was the general opinion, at least here, that it arose from a *fungus*, and that fungus from a seed.

T. H. PASLEY.

Chatham Dock-Yard, Sept. 15, 1820.

ON THE PYROLIGNEOUS ACID, ITS MANUFACTURE AND USES.

By Dr. WILKINSON.

[*Extracted from a Communication made by Dr. Wilkinson to the Bath and West of England Society, and read at their Annual Meeting on the 19th of December*, 1820.]

The manufacture of this acid is conducted on a large scale at Neath, in the neighborhood of Swansea. The furnaces are made about 5 feet by 3, and 6 feet deep, sufficient to contain for each charge about 15 cwt. of wood; the door is made air tight by means of a luting of clay and horse dung, and is not opened for 12 hours; the fire underneath is raised just sufficient to produce a slight glowing heat on the floor of the furnace. All kind of woods are made use of; the drier the wood, the stronger the acid. When the distillation is completed, what is left in the furnace is charcoal, which constitutes about one third in weight of the wood employed; each ton of wood yields about 100 gallons of liquor, consisting of weak acid, tar, and naphtha, and the remaining losses arises from the gaseous products.

The acid cerresponds in all its properties to acetic acid. After rest, a partial separation takes place; the denser tar falls to the bottom; the lighter naphtha floats at the top; the acid, the middle part, from which place it is drawn off: in this state it is a little mixed with portions of naphtha and tar, and is denominated by the manufacturer the black acid, for if it were in this manner employed in the manufacture of sugar of lead, it would produce a very discolored article. By distillation the acid becomes more concentrated and purified: it is in this stage that portion which is sold to the vinegar makers is saturated with chalk; the solution drawn off and evaporated to dryness is exported in the form of the acetate of lime. For the manufacture of the acetate or sugar of lead, the acetate of lime is put into an iron still; sulphuric acid diluted with an equal quantity of water is added, in such a proportion as to leave an excess of sulphuric acid. The acetic acid is distilled, and the sulphate of lime or gypsum, formed in the operation, is left in the still.

The acid drawn off is subjected to another distillation; the acid in this state is highly concentrated, and the 100 gallons of liquor produced in the first distillation is reduced to about 30 gallons of strong acid. In this state it will dissolve nearly half its weight of litharge, which is added to the vinegar whilst cool; during its admixture there is an increase of temperance of nearly 60 degrees; in this stage no heat is employed. If the acid were warmed, there would not only be a considerable loss from evaporation; but the litharge instead of being dissolved would form a hard cake or mass. The manufacturer soon ascertains the point of saturation: he distinguishes by the smell an excess of either acid or litharge. If the mass is too thick to let the impurities subside as much water is added as is equal to the acid employed; after being well stirred it is left for 24 hours to depurate, then drawn off and boiled down to concentration, which is determined by taking out a small portion in a capsule, and observing whether it solidifies on becoming cool. It is then drawn

off into casks holding about 6 or 7 cwt. In about five or six days it becomes solid, at the end of which time, a hole is made at the top, into which a syphon is introduced, in order to draw off the mother-water from the central part; it is then broke up, picked, and sorted for the calico printers.

There being no correct account of this process published, will I hope plead my apology in troubling the society with the above detail.

From some experiments which have been made, the purified acid has been found to answer the same purposes as vinegar in the process of pickling vegetable matter; in its pure state it is so highly concentrated, as to completely decompose onions, cucumbers, &c.; nor will it answer by reducing it by admixture of water. I presume that the principle of pickling vegetable or of salting or preserving animal matter, is to remove all the aqueous portion, and to prevent any subsequent access to that fluid. No decomposition is effected without water; the separation of the elementary principles of vegetable and animal matter is the combined result of the chemical agency of their constituent particles and those of water; if the vegetable matter, or the animal fibre, be in contact with such substances as will not be decomposed, or admit of the accession of water, then the animal and vegetable matter will not be subjected to any destruction.

Upon these principles I presume we may explain why pure acid, reduced by dilution with water, will not answer for pickling: as the common vinegar of the shops will bear with advantage an increase of strength, this is profitably effected by a proportionate admixture with this acid.

After troubling the society with the above remarks, I shall now beg leave to direct their attention to the more important observations and experiments of Mr. Sockett. This gentleman having directed his attention to the smoking of hams with wood smoke, either in a building erected for that purpose, or in a chimney where wood alone is burned, in addition to its considerable increase of flavour, he considered it more perfectly preserved from putrefaction by being, what is commonly called, smoke-dried. Mr. S. having ascertained by experiments that meat thus cured required less salt, he was induced to suppose some antiseptic quality in the same, and not attributable to the mere application of heat. A neighboring manufactory of phyroliganeous acid afforded him an opportunity of trying a variety of experiments, which convinced him of the correctness of the supposition of the antiseptic quality of wood smoke, as the same effects as to flavour and preservation were produced in a superior degree without the aid of any increase of temperature, which by drying diminishes the nutritious quality of meat thus exposed.

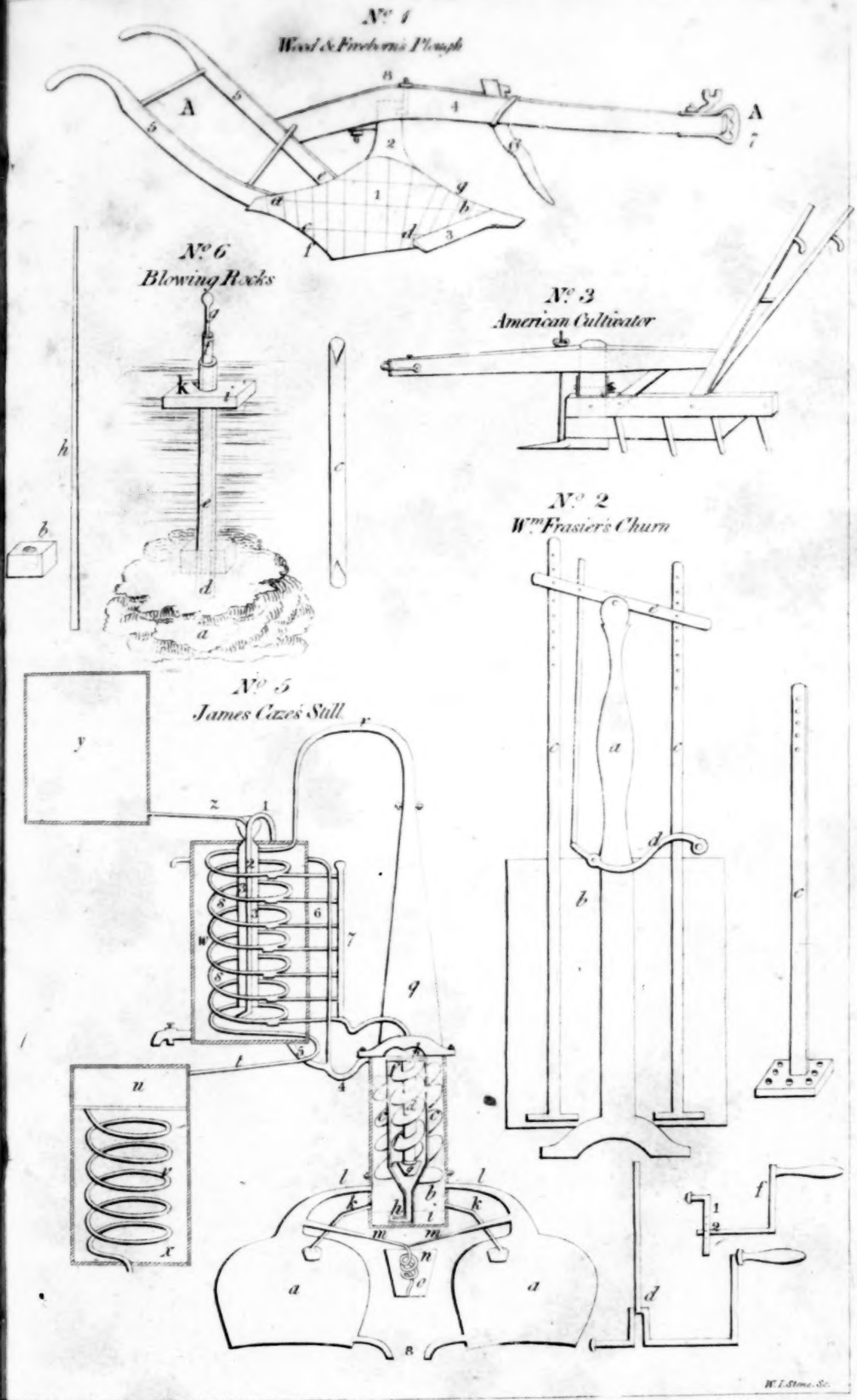
Mr. S. ascertained that if a ham had the reduced quantity of salt usually employed for smoke-dried hams, and was then exposed to smoke, putrefaction soon took place when pyroliganeous acid was not used; even one half this reduced portion of salt is sufficient when it is used, being applied cold, and the ham is thus effectually cured without any loss of weight, and retaining more animal juices.

The mode adopted was by mixing two table spoonsfull of the acid, the same as here sent, in the pickle for a ham of 10 or 12 pounds; and when taken out of the pickle previous to being hung up, painted over with the acid by means of a brush. In many instances, Mr. S. has succeeded by brushing the ham over with the acid, without adding any to the pickle. The same mode answers equally well with tongues, requiring a little more acid, on account of the thickness and hardness of the integuments.

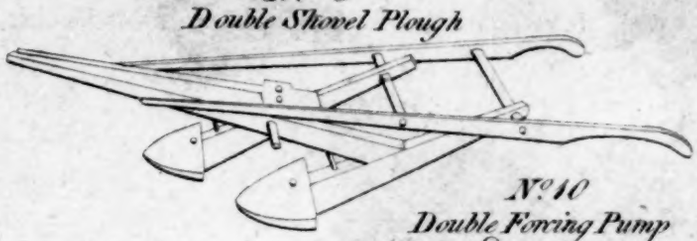
Upon dried salmon it answers admirably; brushing it over once or twice had a better effect than two month's smoking in the usual way, and without the same loss from rancidity.—From the result of a few experiments on herrings, he is persuaded that this mode of curing might be most advantageously introduced in our fisheries, so that herrings might be cured here superior to those imported from Holland.

These experiments so satisfactorily demonstrating the antiseptic qualities of this acid, where only small portions of salt were employed, Mr. S. was then induced to try the results of the application of this acid, when no salt was employed—he placed some beef-steak upon a plate, and covered the bottom with the acid, the steaks being daily turned; and at the time of recording the experiment, he noticed that they kept above six weeks without the least tendency to putrefaction: this experiment was made in the middle of July 1815.

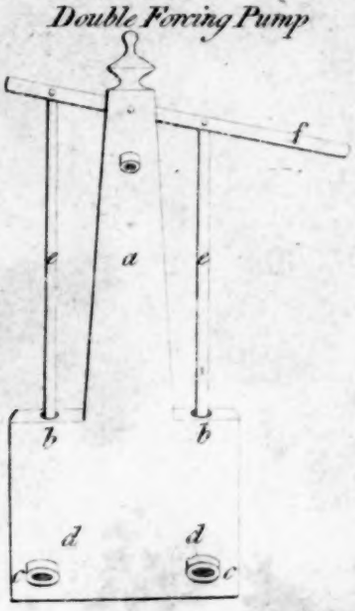
The first experiments reported by Mr. Sockett, were made at the commencement of the year 1815, nearly six years since. Not only Mr. S. but many families in Swansea, and its vicinity practice with the greatest success this mode of curing hams, beef, fish, &c. &c.


No 4
Wood & Finch's Plough
No 6
Blowing Rocks
No 3
American Cultivator
No 2
Wm Frasier's Churn
No 5
James Cazes Still

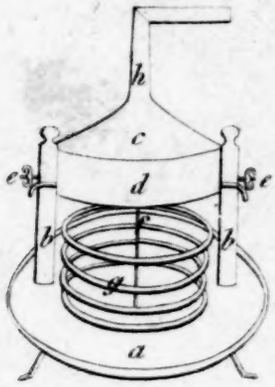
No. 8
Double Shovel Plough



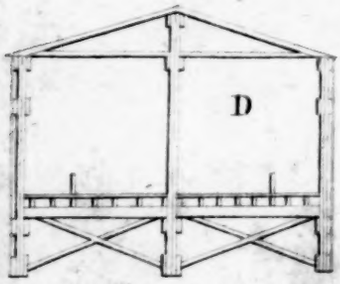
No. 10
Double Forcing Pump

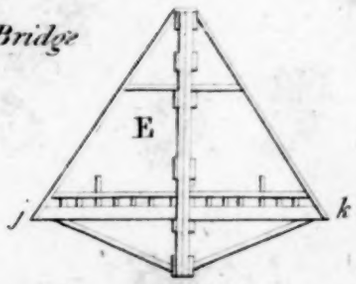


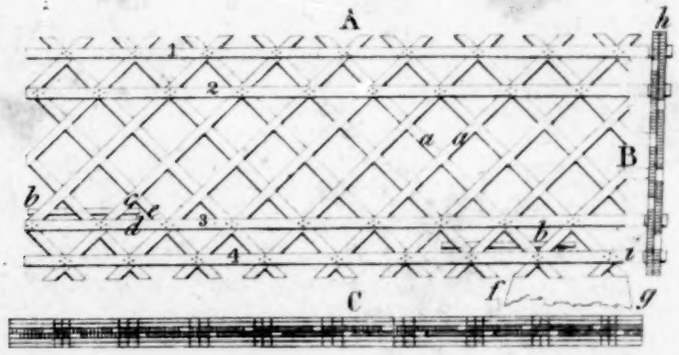
No. 4
Circular Open Stove



No. 7
Ithiel Towns Bridge



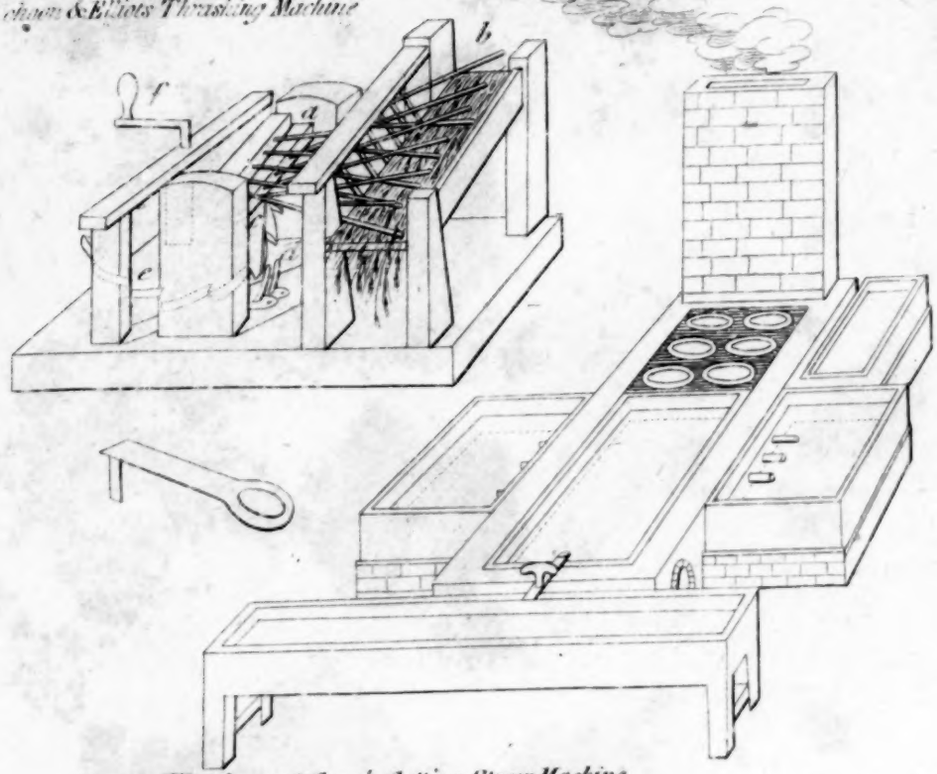




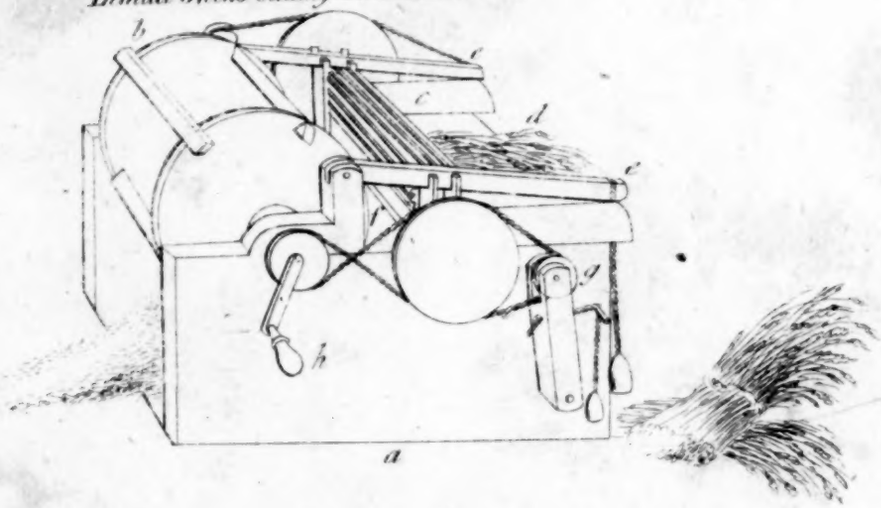
H. Stone. del.

Osborn Parsons's Machine for Boiling Salt Water

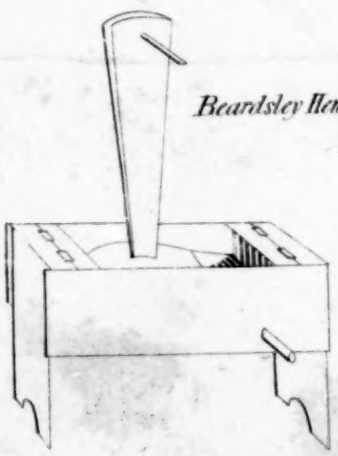
Cobourn & Elliots Threshing Machine



Lemuel Green's Cutting Straw Machine

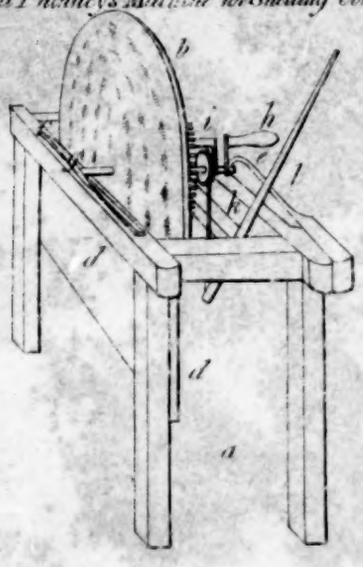


Beardsley Hendrix Washing Machine

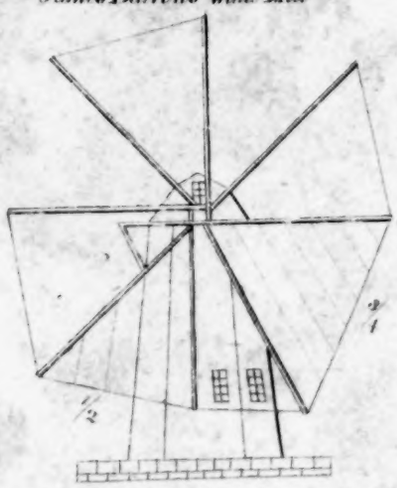


W.J. Stone Sc.

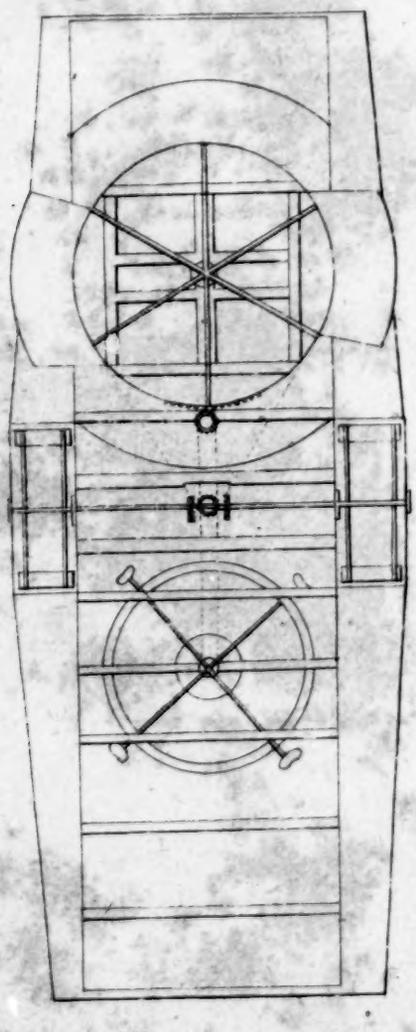
Zina Phinney's Machine for Shelling Corn

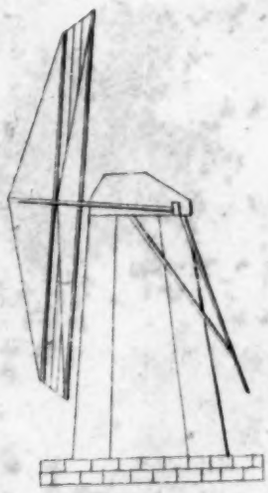


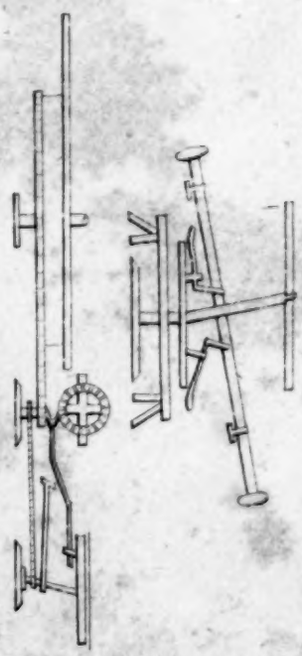
James Barron's Wind Mill



B & J.C. Langdon's Horse Boat







H. Stone. del.

A

LIST OF PATENTS

GRANTED BY THE UNITED STATES,

FOR THE

ENCOURAGEMENT OF ARTS AND SCIENCES,

ALPHABETICALLY ARRANGED,

FROM 1790 TO 1820;

CONTINUED BY SUPPLEMENTS TO APRIL, 1823:

CONTAINING

THE NAMES OF PATENTEES,

THEIR PLACES OF RESIDENCE,

AND THE

DATES OF THEIR PATENTS.

ALSO,

A LIST OF BOOKS, &c.

DEPOSITED IN THE DEPARTMENT OF STATE, FOR SECURING COPY-RIGHTS; FROM JANUARY 1796, TO JANUARY 1822: CONTINUED BY A SUPPLEMENT, TO APRIL 1823;

WITH

AN ALPHABETICAL LIST OF THE NAMES OF PATENTEES: ALSO,

ALL THE ACTS PASSED BY CONGRESS ON THE SUBJECT OF PATENTS.

WASHINGTON, D. C.

PRINTED AND SOLD BY S. ALFRED ELLIOT.

1823.

mcN

District of Columbia, to wit:

BE IT REMEMBERED, that on the 25th day of July, in the year of our Lord one thousand eight hundred and twenty, and of the Independence of the United States of America, the forty-fifth, S. ALFRED ELLIOT, of the said District, hath deposited in this office the title of a book, the right whereof he clams as proprietor, in the words following, *to wit:* "A List of Patents granted by the United States, for the encouragement of arts "and sciences, alphabetically arranged, from 1790 to 1820; containing the names of the "Patentees, their places of residence, and the dates of the Patents, with an alphabetical "list of the Patentees: also, all the acts passed by Congress on the subject of Patents. "Washington, D. C. Printed and sold by S. ALFRED ELLIOT. July 20th 1820."

In conformity to the Act of Congress of the United States, entitled, "An Act for the encouragement of learning, by securing the copies of maps, charts, and books, to the authors and proprietors of such copies during the times therein mentioned:"—and also to the act, entitled "An Act supplementary to an act, entitled, "An Act for the encouragement of learning, by securing the copies of maps, charts, and books, to the authors and proprietors of such copies during the times therein mentioned, and extending the benefits thereof to the arts of designing, engraving, and etching historical and other prints."

In testimony whereof, I have hereunto set my hand, and affixed the public seal of my office, the day and year aforesaid.

[SEAL.]

EDMUND I. LEE,
Clerk of the District of Columbia.

A

Ashes, pot and pearl. Samuel Hopkins	July 31,	1790
Ashes, pot and pearl, furnace for. Edward Rayn	April 29,	1793
Alkali, from marine salt, extracting from kelp. John Nazro	July 6,	1797
Ash, pot, improvement in manufacturing. Edward Ryan	Nov. 19,	1796
Ash, pot, manufacturing. William Forbisher	Nov. 17,	1796
Axes, improvement in sharpening. John Shotwell	March 16,	1799
Air Pump, ventilator for ships		
——, for mines, &c. Richard Robotham	Oct. 10,	1801
Antibilious Pills. Thomas H. Rawson	July 24,	1802
Astronomical Quadrant. Matthew C. Groves	Sept. 3,	1802
Antibilious stomach cordial. Simon Lazarus	Dec. 21,	1802
Apples, machine for pairing. Moses Coatsville, Pennsylvania	Feb. 14,	1803
Antiseptic gas, improvement in the mode of obtaining. Peter De La Bigre, and J. B. M. Picornell	March 24,	..
Antibilious Pills. Thomas H. Rawson, New London, Conn.	April 4,	..
Alcohol, improvement in the method of distilling. Lemuel J. Hilborn, Freehold, N. York and Biddis, Philadelphia	June 4,	..
Air, or Bellows Pump, for raising water. Daniel M. Miller	March 5,	..
Auger, improvement. Christophe Hoxie	July 12,	1804
Ashes, mode of manufacturing. Joseph Bellows, jun. and Eben. White	Dec. 29,	..
Andirons, improvement in. John Stickney, Baltimore	May 4,	..
Anti-Stream-Boat. Wm. Wadsworth, Hartford, Connecticut	July 17,	1806
Artificial Slate, or Tile. Thomas Woodsend	Aug. 7,	..
Auger, improvement in. William Hale, Champlain, New York	Feb. 7,	1807
Axle, and box of carriages. Cyrenus Beach, New Jersey	June 26,	..
Anglet for taking and laying down angles. B. Dearbon, Boston	April 29,	1808
Alarm Bell for fire engines. James P. Parke, Philadelphia	Dec. 19,	..
Astronomical Time-keeper. Theodore Newel, Sheffield, Mass.	July 7,	1809
Auger. See *Screw*. Ezra L'Hommidieu.		
Apples, machine for pairing. Steph. Cruttenden, Gilford, Conn.	Aug. 25,	..
Auger for mining. Perkin Nichols, Boston	May 18,	..
Auger. Stetson and M. Selree, George-town, Ken.	Dec. 11,	..
Apples, machine for coring and quartering. Cyrus Gates, Rutland county, Virginia	Dec. 15,	1810
Andirons, and Fire Places. John Sweet, Beershire, Mass.	Feb. 26,	1811
Air draught, Subignies. Samuel Randall, Providence	March 12,	..
Air flue for a chimney. James Macombes, Greenwich, N. Y.	Nov. 19,	..
Air, difference of rarefied and unrarefied. Sam. Morey, Phil	April. 8,	1812
Acids, mode of preparing vegetable. Nath. S. Allison and B. Hagler, Philadelphia	June 5,	..
Asclepias, manufacture the. George Smith, New York	May 28,	1813
Augers. Martin Howe, New York	April 2,	1814
Andirons. Willaby Dexter, Winchester, Connecticut	May 17,	..
Alarm Bell. Ben. E. Freymuth, Philadelphia	Dec. 22,	..
Auger. Joseph Brownwell, Otsego, New York	May 16,	1815
Ashes, pot and pearl. Jacob Latting, New York	April 26,	1815
Alternate lift for bricks and mortar. Ben. Dearbon, Boston	June 20	..
Auger, single twist screw. Ezra L'Hommedieu, Norwich, Conn.	July 17,	..
Anvil and hammer. Charles Josselyn, Pembroke, Mass.	Oct. 9,	..
Allum made from Lignite. Genit Twost, Philadelphia	March 3,	1817
Anti-attrition, compound. Edward Motts, Philadelphia	Oct 4,	..
Archemedian Screw. Jeremiah Black, North Penn.	Jan. 17,	1818
Auger to bore rectilinial holes. Cyrus Jackson, Butternuts, N. Y.	Feb. 14,	..
Aromatic Steam Bath. J. Deverin & J. B. Isabelle, Lexington, Ken.	July 6,	..
Asiatic Lenitive. Ez. Audler, New York	Oct. 26,	..
Anti-friction Bush. James Rudder, Norfolk, Virginia	Feb 6,	18

Axle, moveable. Geo. N. Reynolds, Charleston, S. C. . April 29, 1819
Auger, tube. Robert Thomas, Richmond co. N. C. . May 22, ..

B

Bark, extract of. John Biddes and Thomas Bidwell, Phil. Aug. 10, 1791
Bed-stead. Ludering Conrad Khun, Philadelphia . . Aug. 10, ..
Bellows. James Rumsey, Berkly county, Va. . . Aug. 26, ..
Boats, manufacturing. Peter Gordon, Phil. . . Aug. 10, ..
Boats, propelling. Henry Voight, Philadelphia. . . Aug. 10, ..
Bark and Wood Sawing. Thomas Harington, Boston . May 9, 1792
Bricks, making. David Ridgeway, Philadelphia . . March 7, ..
Bricks, manufacturing of. Christopher Boils, New York . Jan. 26, 1793
Bricks, manufacturing of. Apollos Kinsley, New-York . Feb. 1, ..
Bells, construction and tone of. Robert Leslie, Philadelphia Feb. 2, ..
Bricks and Pan-tiles, manufacture of. Sam. Brower, New York Aug. 7, ..
Boats, Vessels, and Carriages, machine for propelling. Abija Babcock, Ohio .. . . . Dec. 2, ..
Boats, improvement in propelling, Josiah Shackford, . March 21, 1794
Bellows, construction of. James Drake, New Jersey . May 19, ..
Bark, grinding of. John Mackley, Pennsylvania . . July 19, ..
Boats, improvement in propelling. Daniel Keller, Penn. . May 25, 1795
Boats and vessels, propelling. Wm. Peter Sprangue, Penn. June 19, ..
Boiler for generating steam. See *Steam.*
Bricks, tempering mortar for and making of. A. Kinsley, N. Y. Dec. 20, ..
Ryans, cultivating. See *Corn.*
Bolting Cloths, improvement in. Robert Dawson, Delaware May 12, 1796
Bolts and round iron, improvement in forging, Clement Rentgen Nov. 17, ..
Boards. See *Shingles.*
Boiling. See *Cooking.*
Books and paper. See *Ruling.*
Bridges, improvement in. Charles W. Peale . . Jan. 21, 1797
Bridges, improvement in. John Fowler . . . Feb. 24, ..
Boats and Vessels, propelling. Jehosaphat Starr . April 28, ..
Bridges, improvement in. John Stickney . . . June 3d, ..
Bellows, pendulous, &c. Benjamin Wyncoop . . June 26, ..
Brick, tiles, &c. improvement in. John Hawkins . July 11, ..
Butter, preserving Moses Johnson . . . June 30, ..
Bridges, improvement in. Timothy Palmer . . Dec. 7, ..
Boats, &c. machine for propelling. John Martin, . Nov. 21, ..
Bread, improvement in making. William Banks . . Dec. 14, 1798
Baloon, Federal. Moses M'Farland . . . Oct. 28, 1799
Boat for descending rapid streams. Daniel Keller . . Nov. 5, ..
Boots and shoes, manufacturing of. Dean Howard . April 10, 1800
Bricks and Tiles, machine for making. George Hadfield . May 15, ..
Bricks, improvement in making. Richard Mansfield . Oct. 24, ..
Brewing with Indian corn. Alex. Anderson, Philadelphia . Jan. 26, 1801
Boats to ascend rivers, improvement in. David Grieve . Feb. 20, ..
Boring machine for posts. Richard Weems, Annopolis, Md. March 16, ..
Bark for dying, extract of. Samuel Downing, Trenton, N. J. June 12, ..
Beaming Machine. Jer. Ladd, Charleston, N. H. . . July 17, ..
Boxes for carriages, improvement in. Thos. B. Whitlock, Mount Pleasant, N. J. . . . . Feb. 23, 1802
Bark, machine for cutting and grinding. Jacob Worrel March 17, ..
Block making. See *Lathe.*
Bricks, machine for making. Ezekiel . . . July 17, ..
Boiling Cistern, improvement in. Timothy Kirk . . Dec 20, ..
Boat, insubmersible. Ab. Du Buc Marentille . . Dec. 23, ..
Boiler for accelerating the evaporation of liquids. J. Muffot Feb. 1, 1805
Brandy, mode of making from all kinds of grain or fruit. Christopher J. Hutter . . . . . Feb. 11, ..
Boats, improvement in building. Wm. Hopkins, Norfolk co. Va. May 13, ..
Bellows for a furnace or forge, improvement in working. John Godfrey . May 25, ..

Barks, &c. improvement in the mode of extracting for dying T. Bedwell and Wm. Mitchell . . . . June 7, 1803
Breaking and Carding. See *Wool* . . . . June 28, ..
Boring holes in rocks under water, machine for. John Baptiste Aveilhe . . . . . Aug. 24, ..
Boilers, improvement in; also working stills with the same. Wm. Thornton, Washington City, D. C. . . . . Oct. 28, ..
Bellows Pump, dry. Enoch Alden . . . . Nov. 15, ..
Brick and Tile machine for making by cutting the mortar. Nath. Miller and Philip W. Miller . . . . June 5, 1804
Bed-stead, improvement in. Ward Gilman and Wm. Jackson March 19 ..
Buttons, improvement in manufacturing. George W. Robinson, Providence, Rhode Island . . . . March 19 ..
Breaking and cleansing flax and hemp, machine for. O. Roberts, Baltimore . . . . April 12 ..
Bell, sheep. See *Cow* or *Sheep*.
Black oak bark. See *Quercitron*.
Boring gun barrels, machine for. Nathan Forbes, Providence, R. I. Dec. 31 ..
Bilious cordial, medicinal. Sam. Chamberlaine . . Dec. 31 ..
Beaming machine. Allen Pill, Hinsdale, Mass. . . May 6 1805
Bark mill. Thomas W. Pryor, Philadelphia . . May 21 ..
Bricks, apparatus for. See *Tiles*.
Boiling, method of, for distilling, &c. —— Eggleston, Princetown, Albany, New York . . . . May 27 ..
Boilers, mode of setting. Eben. Jenks, Portland, Maine . June 1 ..
Bellows boards, machine for plaining and sawing. John Hinman, New Haven, Conn. . . . . June 1 ..
Bolts, mode of casting for ships. Joseph Share, Baltimore Oct. 28, ..
Balance pendulum lock. See *Lock*.
Bridges, improvement in. Theodore Burr . . Feb. 14 1806
Bricks, machine for making. John F. Gould . . March 1 ..
Boats. See *Propelling*.
Boxes for carriage wheels. James Gridley, Boston . May 26, ..
Boxes for carriage wheels. Levi Brown, Berkshire, Mass. May 30, ..
Boring, machine for. Roger Selden . . . July 17, ..
Boots and shoes, improvement in. John Bedford, Philadelphia July 16, ..
Brads, machine for cutting, Jonathan Ellis . . Feb. 10, 1807
Bottoms for boots and shoes, of metal. Sam. Milliken, Lexington, Massachusetts . . . . . Feb. 10, ..
Boots and shoes, improvement in making. W. Montgomery, Phil. Feb. 11, ..
Butter, mode of making. P. G. & G. Burtis, New York . Feb. 27, ..
Bark, mode of applying for hats, &c. Sylvester G. Whipple, Hallowel, Massachusetts . . . . April 17, ..
Bridges, mode of construction. Thomas Pope, New York April 18, ..
Bark, machine for grinding. Corns. Tobey, Hudson, N. Y. May 7, ..
Box for carriages. See *Axle*.
Boots and Shoes, mode of making. Eli. Barnum, Mass. . Jan. 9, 1808
Boats, mode of propelling. Philemon Heaton, Mark B. Boys, and Philemon Heaton . . . . .
Boats, &c. See *Impelling*.
Boring. See *Pressing*.
Bricks, mode of making. Asa Frost, Cazenovia, New York Sept. 21, ..
Balls and shot made by pressure. Thos. Bruff, Washington City Oct. 5, ..
Boots and shoes. Sam. Chamberlain, Boston - - Nov. 21, ..
Boiler for distilling double. Amos Gunn, New Haven, Conn. Dec. 19, ..
Bellows. Henry Dotterer, Philadelphia . . . Feb. 16, 1809
Bene Oil. William Few, New York . . . March 1, ..
Bow string for hatters. Daniel Nichols, New Milford, Conn. March 1, ..
Boxes, mode of boring for axle-trees. A. Brood, Salisbury, Conn. June 14, ..
Boiler. See *Worm*. James Trueman . . June 24, ..
Boiler and heater. Samuel Bolton, Philadelphia . . July 7, ..
Barbal Alkaheat, or Magic Lotion. John Hopkins, Phil. Aug. 24, ..
Boxes, mould for running. Samuel Smith, Amherst, Mass. Oct. 17, ..

Bricks and tiles, machine for making. John F. Gould, Newbury Port, Massachusetts . . . . . Oct. 17, 1809
Barilla, mode of manufacturing. George Easterly, Richmond, Va. Feb. 5, 1810
Bridges, construction of. Joseph Joshua Dyster, Phil. . Feb. 23, ..
Boxes for carriages. Leonard Farwell, Lancaster, Mass. March 5, ..
Bridges, construction of. John Templeman, Georgetown, D. C. March 6, ..
Boring Machine. Benjamin Hall, Canaan, New York . March 8, ..
Borer, mitre point. Benjamin Hall, Canaan, New York March 8, ..
Beehives. John Sweet, Bethlehem, Mass. . . April 11, ..
Boxes for wheel carriages. John Nicholson, Herkimer, N. Y. April 28, ..
Boring machine. John Webster, Barrington, Mass. May 1, ..
Bellows, elastic piston. Henry Dotterer, Philadelphia , May 1, ..
Bilious pills, Lee's Windham. Sam. Lee, N. London, Conn. May 24, ..
Balance Scale. Russel H. Wright, Boston . . June 9, ..
Breaking Horses and cattle. David Cooley, Orange co. N. Y. June 23, ..
Boat and ship building. Wm. Phoebus, New York . June 27, ..
Bolts, rolling iron round for ships. Clement Rentgen, West Chester, Pennsylvania . . . . . June 27 ..
Boat, flat-bottomed, with moveable keel. S. Buel, Burlington, Ver. June 7 ..
Brick, mode of making. Joseph B. Harris, Philadelphia . Aug. 21 ..
Bricks and tiles, making. Daniel French, New York . Aug. 22 ..
Boiler, improvement in the. Wm. Eaton, Baltimore . . Oct. 29 ..
Boiler and steam still. Borden Wilbor and Timothy Soper, Washington, New York . . . . . Feb. 4 1811
Bark-mill. Luther Gale, Berkshire co. Mass. . . March 20 ..
Boots, mode of forming cossacks. John Morgan, Philadelphia April 10 ..
Bricks, mode of manufacturing. James Gregg, New Hampshire May 7 ..
Bolts, machine for cutting off the ends of. John Rewey, Berkshire, New York . . . . July 8 ..
Balance bridge. Jonathan Jessup, York Town, Penn. July 2 ..
Bellows, forge. Charles M. Murtry, New Marlborough, Mass. July 8 ..
Boot and shoe making. S. Hitchcomb and J. Bement, Homer, N. Y. June 30 ..
Boilers, circular. John Sizer, New London, Conn. . Oct. 15 ..
Boot lays, manufactory of. John Vernon, Baltimore .
Boxes. See *Metallic*. Lebbeus Larrebee.
Boats, &c. constructing. Francis Rotch, New Bedford, Mass. Nov. 29 ..
Bee-hives, constructing. Timothy Stanly, Farmington, Conn. Jan. 6 ..
Bed-stead, improved easy draught. Peter Tilton Walcot, Monmouth, New Jersey . . . . . Jan. 6, 1812
Boot legs, machine for cramping. N. L. Moore, Smithfield, Mass. Feb. 4, ..
Bridge, rolling draw. Richard Crosbie, Newark, New Jersey Feb. 17, ..
Boots and shoes, machine for making. Elijah Thayer, Leicester, Massachusetts . . . . . March 14, ..
Brick machine. James McDonald, New York . . April 1, ..
Boring machine. Nath. Gillet and John Smith, Cazenovia, N. Y. April 8, ..
Bridges, construction of. Benjamin Conner, Portsmouth, N. H. April 25, ..
Blankets, wool made into. Elkenah Cobb, Georgetown, D. C. April 29, ..
Boring machine. David Sperry, Colchester, N. London, Conn. May 12, ..
Buttons, moulds for casting. G. W. Robinson, New Haven, Conn. May 14, ..
Boots and shoes, with pegs, &c. R. W. Richards, Norwalk, Conn. May 23, ..
Bark, mode of grinding, &c. Jos. Richardson and Ben. Stout, June 6, ..
Boiler, stone, for sulpher. Ab. H. Quincy, Boston, Mass. June 13, ..
Boats, chain wheels and paddles for. Robert R. Livingston, Clermont, New York . . . . . June 13, ..
Boots and shoes, elastic hair. Wm. Francis, Boston . June 23, ..
Boot, mathematical. Wm. J. Crease and J. Morgan, Phil. July 29, ..
Book-binding. John T. Sullivan, Philadelphia . . July 27, ..
Boats and vessels, constructing. Francis Rotch, Philadelphia Aug. 3, ..
Bodies of carriages. Henry Dunlap, Georgetown, D. C. Aug. 27, ..
Boots &c. iron bound. Ephraim Twomly, Norway, Mass. Aug. 28, ..
Book-binding. Robert De Silver, Philadelphia . Sept. 14, ..
Box boiler. John Morris, N. Haven, Conn. . . Oct. 3, ..
Bed-steads. John Redman Cox, Philadelphia . . Oct. 16, ..

Bridles. Robert Smether, Orange Co. Va. . . Dec. 10, 1812
Boring rocks. John Sanford, Sharon, Conn. . . Dec. 10, ..
Bread, machine for making. Jehosaphat Starr, Middleton, Conn. Jan. 8, 1813
Bread; machine for making. George Richards, Manlius, N. Y. Feb. 8, ..
Boiling. See *Distilling*. John Morris, New Haven, Conn.
Bullets and Shot by pressure. Thomas Bruff, Washington City June 4, ..
Bathing machine. Henry Chevens, New York . July 13, ..
Bleaching Cotton by steam. Alexander Milner, and Dan. S. Deane, Clinton, N. Y. July 14, ..
Bark mill. Caleb Churchman and George Martlin, jun. Upper Chichester, Penn. . . . . July 16, ..
Bathing vessel. Dan. Harrington, Centreville, Pa. . . . Oct. 4, ..
Boiler, cylindrical. Philo M. Buckley, Hudson, N. Y. . Oct. 9, ..
Boiler and steam still. Timothy Soper, jr. and Charles Reynolds, Hartford, Conn. . . . . Dec. 2, ..
Boat, the rapid. Fred. W. Guissenhainer, New York . Jan. 14, 1814
Bath, warm and cold. Sam. K. Jennings, Lynchburg, Va. Jan. 21, ..
Bathing machine. Wm. Merritt, New York . . Feb. 1, ..
Boats, propelling. Moses Rogers, New York . . Feb. 9, ..
Boring guns and pistols. Daniel Pettibone, Philadelphia . Feb. 12, ..
Butter, making bad good. Zina Phinney, Green co. N. Y. March 4, ..
Black lead pencils. Christopher Osgood, Salem, Mass. March 26, ..
Bark mills. Jared Olds Mariden, New Haven, Conn. . April 18, ..
Bricks and tiles, pressing. Ben. Porter, Salem, Mass. . May 18, ..
Balancing wheels. mode of. John Andrews, Lichfield, N. Y. May 27 ..
Boring machine. Richard Deering, . . . May 28 ..
Buff, or polishing wheel. Aaron Broad, Lichfield, Conn. June 6 ..
Bayonet socket. Andrew Wilson, New York . . June 11 ..
Boilers. Gabriel N. Philips, Goshen, N. Y. . . June 28 ..
Brandy, imitating. Henry Moore, Aurora, N. Y. . . July 2 ..
Block, head. Joseph Briggs, Scholarie, N. Y. . . July 9 ..
Boiler. Lemuel M. Richards. Cazenovia, N. Y. . . March 30 1815
Button Moulds. John B. Collins, Meriden, Conn . . April 12 ..
Do. of wood. Anson Mathews, Southington, Conn. . April 26 ..
Bank notes, printing on the back. John Kneas, Philadelphia April 28 ..
Bark mill. Luther Gale, Lenox, Mass. . . May 16 ..
Box Boot, open back spring. Wm. Atchison, New York . May 23 ..
Boat, propelling. Gabriel Mabny, Montgomery, N. Y . . June 8 ..
Boat, rocking or lever. Bennet Lees. New York . . June 20 ..
Brads, for cutting. Seth Boyden, Boston, Mass. . . June 27 ..
Buttons, rounding the edges, &c. Ira Ives, Bristol, Conn. Aug. 7 ..
Do. construction of the eye. Do. Do. Do. . Aug. 7 ..
Do. setting the eyes of. Do. Do. Do. . Aug. 7 ..
Bowing wool for hatters. Edward C. Griffing, Lyme, Conn. Aug. 10 ..
Buttons, wire-necked. Heman Mathews, Southington, Conn. Sept. 12 ..
Blankets, improvement on machine for making. J. Getzendannar, Frederic co. Md. . . . . Sept. 30 ..
Bark, machine for grinding. David Pelton, Lyme, New Haven, Sept. 30 ..
Bark, machine for shaving. William and John Goodwin, jun. Lebanon county . . . . Oct. 16 ..
Boilers for making salt. Isaac W. Averille, Salina, N. Y. . Nov. 5 ..
Boilers for steam. Royal Yeamans, Baltimore . . Jan. 9 ..
Do. Do. finishing. Royal Yeamans, Baltimore . . Sept. 12 ..
Boiler and furnace united. Philo M. Buckley, New York Jan. 22 ..
Buttons, wire-necked finishing. H. Mathews, Southington, Conn. Sept. 12 ..
Biscuit making. Wm. Liddle, New Orleans . . Sept. 21 ..
Beef cutter. Ben. Meeker, Brooklin, N. Y. . . Oct. 21 ..
Boots and shoes, cutting. Joshua Hall, Fredericktown, Md. Dec. 15 ..
Boats to be worked by quadrupeds. David Porter, Washington Feb. 8 1816
Bridges, frame. George Tabb, Martinsburg, Va . . Feb. 23 ..
Boots and shoes furred. Samuel Eells, Conn. . . Feb. 24 ..
Buttons, composition for wire-eyed. S. H. Woodruff and A. Mathews, Connecticut . . . . March 1 ..

Buttons, turning.	Daniel French, Bridgeport, Penn.	April 23	1816
Bolt, spring.	Shad. Trumball, Suffield, Conn.	April 23	..
Boxes and axle-trees for carts, &c.	Wm. Bachelor, New York	May 2	..
Breweries, machine for washing.	Leonard Beatty	May 17	..
Blocks, casting the sheaves of.	Henry Worall, New York	June 12	..
Button moulds, polishing wooden.	J. Norton, Southington, Conn.	June 13	..
Bricks, making.	Wm. Michel, Henrico, Va.	June 24	..
Bank notes, to prevent forgery of.	A. Brewster, Hartford, Conn.	July 15	..
Boats, propelling by horses, &c.	Rodman Bowne, New York	July 18	..
Beating, bruising, machine for. See *Cutting*.	Adam Britz, Phil.	July 18	..
Bricks, air conducting.	Ephraim Treadwell, Essex co. Mass.	Sept. 12	..
Building boats, &c. with plank.	W. Annesley, Albany, N. Y.	Sept. 12	..
Boots and shoes, elastic.	Pierre Azam, Baltimore	Sept. 26	..
Bells, moulding and casting.	Ben. Hanks, Albany, N. Y.	Nov. 4	..
Boiler.	Humphrey Ricketson, New York	Dec. 13	..
Bellows wooden.	Ben. and John Tyler, Claremont, N. H.	Feb. 1	1817
Boiler for steam engines.	Samuel Morey, Orford, N. H.	March 13	..
Brick-making, &c. machine for.	Wm. Mitchell, Richmond, Va.	March 26	..
Building bridges.	Theod. Burr, Burr Haven, Dauphin co. Penn.	April 3	..
Boot cleaning machine.	Israel Pinkney, New York	April 16	..
Bench, work.	Baruch Way, Ontario co. N. Y.	June 7	..
Balance, improvement on Dearborns.	S. A. Rogers, Geneva, N. Y.	July 31	..
Bellows, japanned.	R. B. Richardson, Philadelphia	Aug. 22	..
Bleaching cotton and linen.	John Kendall, Leominster, Mass.	Aug. 22	..
Box for carriages.	Wm. Edwards, Baltimore	Sept. 11	..
Bit for boring gun barrels.	James Greer, Harpersferry, Va.	Oct. 3	..
Bucket for sap.	Jeremiah Purdy, Cherburn, Chenango, N. Y.	Oct. 3	1814
Boiling.	Caleb Shepard, Cincinatus, N. Y.	Oct. 4	..
Ball stocks for printers.	John Babcock, New Haven, Conn.	March 18	1818
Bellows, smith's.	Alanson Holmes	March 23	..
Bricks, mode of making.	Wm. Mitchell, Spring Hill, near Richmond	May 28	..
Butter, making.	Isaac Shepperd, Meredith, Stafford co. N. H.	May 28	..
Boots and shoes, nailing the sole to the upper leather.	John Bedford, Philadelphia	June 2	..
Bent wood handle and socket.	Simeon Stedman, Hartford, Conn.	July 25	..
Book-binding, improvement in.	John Meer, Philadelphia	Aug. 26	..
Blocks, sheaves for.	Nathan. H. Lewis, New York	Aug. 26	..
Bleaching linen, &c. improvement in	J. G. Kentzel, Hatfield, Penn.	Oct. 8	..
Breaking flax, machine for.	David Melville, Providence, R. I.	Nov. 18	..
Boiler, treble steam.	Sam. Morey, Orford, New Hampshire	Dec. 19	..
Boiler, improvement on.	John L. Sullivan, Boston	Dec. 29	..
Bridges, building.	Naphtali Bishop, Barre, Vermont	Jan. 11	1819
Blocks, used in stereotype plates.	Mathew Smith, New York	Jan. 20	..
Brooms, machine for making.	S. H. Weed, Poughkeepsie, N. Y.	Feb. 3	..
Building houses against fire.	Joseph Hadley, Morristown, Orleans county, Va.	Feb. 3	..
Bush. See *Antifriction*.	James Rudder	Feb. 6	..
Boiler, stove.	Thos. E. Barker, Green co. N. Y.	Feb. 19	..
Boiler for distilleries, &c.	T. Pierce, Hartwick, Otsego co. N. Y.	Feb. 27	..
Blasting rocks.	Benoni Kinyon, Hillsdale, Columbia co. N. Y.	March 15	..
Ballance, improvement on his.	Benjamin Dearborn, Boston	March 24	..
Boats propelling.	James Lyon, Statesburgh, S. C.	April 3	..
Brick making machine.	Adam Stewart, Baltimore	April 8	..
Brewing, improvement in.	Authur Redmond, Nashville Tenn.	May 20	..
Balls and shot, mode of casting.	Dan. Pettibone, Philadelphia	Nov. 10	..

C

Cabouse, construction of a.	John Youle, New York	Aug. 25	1795
Candles, manufacturing of.	Joseph T. Sampson, Boston	Aug. 6	1790
Do. Do.	Richard Robotham, New York	June 2	1794
Carriages to be propelled by mechanic powers, construction of.	John J. Staples, New York	April 25	..

Cloths, raising a nap on. Sam. Mullikin, Philadelphia . March 11 1791
Cloths, method of raising and shearing the nap of, by a wheel of knives. Sam. G. Dorr, Albany, N. Y. . . . Oct. 20 1792
Cloths, woollen and other shearing. Sam. Kellogg, Vermont Jan. 31 1795
Colour, yellow, forming a. Thomas Bidwell, Pennsylvania April 20 1796
Conductor for conveying persons and goods from houses on fire. Samuel Green, New York . . . . March 28 1792
Cordage, manufacturing. Geo. Parkinson, Pennsylvania June 16 1795
Cordage, manufacturing of. John Pitman, Rhode Island . May 25 ..
Cotton, spinning. Wm. Pollard, Philadelphia . . Dec. 30 1791
Cotton, ginning. Eli Whitney, New Haven, Conn. . March 4 1794
Cotton, gin. Hodgen Holmes, Georgia . . . May 12 1796
Candles, improvement in making. Joseph S. Sampson . June 26 1797
Candles, machine for dipping. Samuel Blydenburg, . March 22 1798
Cards, manufacturing. Amos Whitemore . . June 5 1797
Carriages, improvement in propelling. William Farris . April 29 ..
Casting. See *Iron*.
Chimnies, improvement in. Richardson Stuart . . Feb. 24 ..
Clay for tile, a new method to cut. Andrew W. Duty . May 8 1799
Clock, time-keeper, and watches, improvement in. Eli Terry Nov. 17 1797
Cloth, improvement in a loom for weaving. Amos Whitemore Nov. 17 1796
Cloths, washing. Nathaniel Briggs . . . March 28 1797
Cloth, raising a nap on. Walter Burt . . June 23 1797
Cloth, machine for dressing. Isaac Sanford . . March 27 1799
Cloth, improvement in washing. Ezra Weld . . June 26 ..
Coal stove. See *Stove*.
Coffee-grinding, improvement in. Thomas Bruff . . Jan. 8 1798
Colours and paint, improvement in mixing. Lawrence Allwine Feb. 24 1797
Combs, a machine for making. Phineas Pratt . . April 12 1799
Concentrating the volatile parts of calcarious earth stones, &c. improvement in. John Fowler . . . . Nov. 16 1796
Cooking and boiling, machine for, called a Conjurer. Thomas Passmore . . . . Dec. 23 1796
Corn, beans, &c. a machine for cutting. Eliakim Spooner Jan. 25 1799
Corn, beans, &c. a machine for planting. Eliakim Spooner Jan. 25 ..
Cotton, improvement in ginning. Robert Watkins . Dec. 23 1796
Cotton, improvement in ginning. John Murray . . Dec. 23 ..
Cotton-seeds, extracting oil from. Charles Whiting . March 2 1799
Counterfeits, a check to detect. Jacob Perkins . . March 19 ..
Comb-teeth, improvement in cutting and pointing. I. Tryon Feb. 22 1798
Coach colours, improvement in. Wm Hottensteen . April 10 1800
Cloth, to their original state, to be manufactured. John Biddis May 6 ..
Cooking, machine for. Frederick Butter . . . Aug. 22 ..
Chimnies, improvement in. David Cooley, jr. and Gab. N. Philips Aug. 25 ..
Cotton gin. Eben. Whiting, Berkshire, Mass. . . Aug. 22 1801
Condenser in heating wash in distilling. A. Anderson, Philadelphia, Jan. 26 ..
Chain and cleaver shot, mode of making and discharging. Israel Hatch . . . . . March 24 ..
Cut nails. See *Nails*.
Cylinders, wheels within which. See *Wheels within Cylinders*. Sept. 15 ..
Currier's shavings. See *Paper*.
Churning, machine for. Isaac Baker, Amherst, Mass. . Feb. 20 180[illegible]
Cotton gin, machine for. Wm. Bell and Sam. de Montmollin April 7 ..
Churning, machine for. Joel Pierce . . . April 10 ..
Clover seeds, machine for cleaning. Asher Spicer, Kent, Mass. April 22 ..
Close stoves, improvement in casting. Henry Abbott, Phil. May 4 ..
Cutting fur for the use of hatters, machine for. Nicholas Young, May 14 ..
Clover seed, machine for cleaning. Martin Miller . . July 19 ..
Corn husks. See *Paper*.
Cotton. See *Saw-mill for cleaning*.
Cotton gin, improvement to the patented roller. Wm. Bell and John S. De Montmollin . . . . March 7 180[illegible]
Clover-seed, machine for cleaning. John Cottle, Philadelphia, March 21 ..

Cooler or Condencer of vapour, improvement. Wm. How, Bucks county, Penn. . . . . April 3 1803
Crooked keels, mode of constructing vessels with. Eliphalet Bube, Allegany co. Penn. . . . . April 27 ..
Channels, machine for deepening. Mat. Barney, Nantucket May 14 ..
Cleaning cotton, a rolling machine for. Gurdon F. Saltonstall,
Churn, rocking. Walter Keeler and James Warring . June 23 ..
Cloths, machine for shearing. See *Shearing*.
Cabouses, improvement in the construction of iron ones. William Ashbridge . . . . . June 28 ..
Columbia fire places, improvement in. Robert Heteric, Winchester, Va. . . . . June 30 ..
Cooling liquors, method of. David Lowndes . . . July 31 ..
Clover, machine for separating from pod. T. Kirk, York Borough, July 23 ..
Cock. See *Water Cock*.
Cough Drops. See *Vegetable Elexir*
Carriages, mode of constructing. J. C. Stroebel, Reading, Penn. Sept. 19 ..
Cotton gin improvement in William Bill, Camden, N. C. Nov. 24 ..
Cylindric ruler for ruling paper. John Fairbanks, Boston Nov. 30 ..
Cottor gin. Joseph Eve . . . . . Dec. 6 ..
Cards. See *Twilling Machine*.
Condensors. See *Still Heads*
Clover-seed, wheat, &c. improvement in separating from the husk. David Buckman . . . . . Dec. 2' ..
Colours, for painting, printing, &c. improvement in making. F. Gay, Baltimore . . . . . Dec. 30 ..
Clover-seed, machine for hulling. Jacob Warrell . . Feb. 27 1804
Cattle. See *Watering*.
Clover-seed, machine for shelling. Michael Withers, Lancaster, April 30 ..
Cutting straw and hay, machine for. M. Coats and E. Evans April 30 ..
Columbian threshing, break and cleaning fan. Samuel Houston May 3 ..
Churn, machine to be fixed to the top of. Levi Stevens May 8 ..
Corn. See *Shelling*.
Chip hats, machine to cut chips for. Amos D. Allen . . May 10 ..
Cotton, machine for cleaning and moating. J. Simons & J. James, May 17 ..
Clearing grain from straw, improvement in machines for. William Tunstodt, Richmond, Va. . . . . June 30 ..
Chip hats, machine for cutting chips for. Amos D. Allen, John Roberts and Asahel A. Kelsey, Berlin, Penn. Sept. 5. ..
Carriage. See *Waggon*.
Chimnies, method of preventing them from admitting water in rainy weather. John James Thomas . . . Oct. 2 ..
Candlesticks, improvement in. Ben. Dearborn, Boston . Oct. 29 ..
Composition. See *Fire*.
Cow or sheep bell, impt. in. Simon Newton . . Dec. 23 ..
Close fire place. Horatio G. Spafford, Hudson N. Y. . May 3 1805
Carraiges, iron wheel for transporting. R. Crane, jun. Woodbury, Connecticut . . . . May 4 ..
Cross cramp for four wheeled carriages. S. Glover, Fairfield, Conn. May 4 ..
Clover-seed, machine for shelling and hulling. Michael Zorger, York, Pennsylvania . . . . May 10 ..
Condensing tub, improvement on Anderson's. Henry Witmer, Lancaster, Penn. . . . . May 17 ..
Cotton, machine for ginning, carding and spinning. J. M'Bride, Nashville, Tenn. . . . . Aug. 8 ..
Casting types. See *Types*.
Conduits, clay pipes for. Sam. Bartlett, Hartford, Conn. . Oct. 1 ..
Casting Bolts. See *Bolts*.
Cattle mills. See *Mills*.
Copying machine for charts, landscapes, &c. Cephas Thomson Feb. 5 1806
Chip. See *Loom*.

Cabouse, improvement in. George Youle, New York . March 21 1806
Carding machine to form bats for wool hats. Abner Guild, Dedham, Massachusetts . . . March 31 ..
Cyder and bark mills. J. Quintard, Stanfield, Conn. April 5 ..
Cutting straw, machine for. John Heavin, Montgomery co. Md. April '7 ..
Calcarious matters, method of reducing into lime. Charles Varle May 2 ..
Cabouse stove, apparatus for cooking, &c. Geo. Youle, New York May 21 ..
Cloth. See *Shearing*.
Churn. Abner Wing, Washington, N. Y. . . . May 26 ..
Cables, apparatus for improving. Nath. Cutting, Washington co. Aug. 14 ..
Composition for covering and flooring houses. Lewis de Niroth, Baltimore . . . . . Feb. 3 1807
Charcoal, mode of making from peats. C. Fales, Worcester, Mass. Feb. 11 ..
Carding fur and wool for hats, machine for. Arnold Buffum Feb. 21 ..
Cabouse stove for cooking, improvement in. Geo. Youle, N. Y. April 1 ..
Carriages, mode of disengaging swingle-tree. Henry Dunlap, George Town, D. C. . . . . April 23 ..
Curtains or blinds, mode of hanging. Peter Harvey, Philadelphia May 9 ..
Cotton gin. Obadiah Crawford . . June 22 ..
Churns improvement in. Reuben Buck, Baltimore . June 23 ..
Condensers in distillation. T. O'Connor, New York . July 10 ..
Cleaning windows, apparatus for. T. Bruff, Washington City July 24 ..
Churn improvement in. Buel Butler, Washington, N. Y. . Oct. 3 ..
Copper sheathing nails, mould for casting. Thomas M'Ilwhain, Princeton, N. J. . . . . Oct. 6 ..
Cheese press, improvement in. J. Arnold, Pawlings, Duchess county, N. Y. . . . . Oct. 26 ..
Churn, improvement in. John Scripture, Alford, Mass. Dec. 15 ..
Cordage, mode of manufacturing, &c. R. Fulton and Nathaniel Cutting, New York . . . . March 4 1808
Combs, machine for making. Phineas Pratt, Say Brook, Conn. March 5 ..
Churn, improvement in. Simeon Hays, Poultney, N. Y. . March 8 ..
Churn, revolving. Nicholas King, Washington . . March 10 ..
Churn, improvement in. S. Stackhouse, Cassanovia . March 11 ..
Chimnies, improvement in. G. Gridley, Newburyport, Mass. March 13 ..
Cyder and cheese press, improvement in. Eden Benedick, New Marlboro', Mass. . . . . March 21 ..
Churns, improvement in. W. W. Townsend, Sand Hill, N. Y. March 22 ..
Cross cut saw. T Cohoon, Washington . . April 11 ..
Cheese press, improvement in. E. Warner, Waterbury, Conn. April 12 ..
Churn, improvement in. Daniel Pierpont, New Haven, Conn. April 22 ..
Churn, improvement in. Aaron Reed, Columbia, N. Y. . April 25 ..
Carriages for field artillery. D. Cobb, Boston . . April 25 ..
Churn, improvement in. N. Howe, Windham, Conn. . April 25 ..
Churn, improvement in. S B. Willard, Bloomfield, N. Y. May 18 ..
Carriage springs. Enoch Ives and Jerry Hill, New Haven, Conn. June 3 ..
Chain bridge. Fayette co. Penn. . . . June 17 ..
Cyder and cheese press. E. Benedick, New Marlboro', Mass. June 18 ..
Conduit pipes, mode of making from clay. Robert Ramsey, Hanover, New Hampshire . . . . June 24 ..
Churn. Dyer Cleveland, Sheffield, Mass. . . July 7 ..
Currying and finishing leather S. Parker, Bellerica, Mass. July 9 ..
Churn. Dyer Cleveland, Sheffield, Mass. . . . July 111 ..
Churn. E. Townsend, Canaan, N. Y. . . July 12 ..
Churn. John Bolton, Philadelphia . . . Aug. 2 ..
Chain bridges, improvement in. J. Templeman, Alleghany, Md. Aug. 15 ..
Churn, rocking. Daniel Parmele, Duchess co. N. Y. . . Sept. 8 ..
Churn. Sam. Moon, jun. Downington, Penn. . . Oct. 24 ..
Churn and washing machine. John Devotie, Vernon, Oneida county, New York . . . . Dec. 5 ..
Churn. Luther Jones, Canton, Conn. . . . Dec. 10 ..
Cheese press. Levi Martin, Granville, N. Y. . . . Dec. 19 ..
Casting. See *Pipes*.

Carriages, mode of suspending. J. Henderson, Gifford, Conn. Dec. 26 1808
Cheese press. H. Dichermans, Berkshire co. Mass. Dec. 27 ..
Cheese press. Hazin Erwin, Boston Dec. 28 ..
Clover-seed, machine for cleaning. Wm. Sampson and C. Curtis, New Haven, Conn Jan. 6 1809
Candles, machine for manufacturing. Wm. Miller, New York Jan. 6 ..
Candles, machine for dipping. Sam. Stansbury, New York Jan. 6 ..
Combs. Moses Moss, Farmington, Conn. Jan. 10 ..
Composition for the bottoms of vessels. Jonathan Pratt, Middletown, Conn. Jan. 14 ..
Carriages. Wm. Ross, New York Jan. 14 ..
Clay conduit. Sam. Bartlet, Hartford, Conn. Jan. 15 ..
Churn. Ira Millington, Warren, N. Y. March 2 ..
Clover-seed, machine for getting out. S. Condon, New Hartford, Connecticut March 3 ..
Cement for covering houses. C. Mornewick, Baltimore March 13 ..
Case or kirb for sinking wells. Job Cowperthwaite, sen. April 13 ..
Churn. Ezra G. Jones, Otsego, N. Y. April 21 ..
Currying and finishing leather. Sam. Parker April 26 ..
Churns. Hezekiah Dickerman and G. Barrington, Mass. May 9 ..
Combs. Nath. Jones, Southington, Hartford co. Conn. May 9 ..
Churns. George Votee, Berlin, Conn. May 10 ..
Cheese press. Phineas Allen, Burlington, N. Y. May 13 ..
Churning. See *Washing*.
Churn. J. M'Coord, Washington, N. Y. June 13 ..
Cables and ropes, machine to lay and spin. W. Schultz, Balt. June 24 ..
Churn. L. Thomson, Sturbridge, Mass. June 24 ..
Clock. Ira Ives, Bristol, Conn. June 24 ..
Chimneys. Lewis Leceene, Philadelphia June 26 ..
Combs, mode of making from hoofs. R. Gedney, New York June 26 ..
Combs. Timothy Stanley, Southington, Conn. July 6 ..
Clay, machine for tempering. John Mathews, Baltimore July 6 ..
Corn stalks, mode of distilling from. B. Allison, Philadelphia July 6 ..
Cheese press. Ben. Atwell, Burlington, N. Y. July 18 ..
Cabouse, improvement in the. Geo. Youle, New York July 27 ..
Churn. Thos. Nicholson, Washington Aug. 10 ..
Churn. Ben. W. Lapish, Durham, N. H. Aug. 15 ..
Churn. Nath. Harrington, White's Town, N. Y. Oct. 11 ..
Clock, in the striking part of. Lemuel G. Kilborn, Penn. Oct. 12 ..
Corn. See *Furrowing, &c.*
Churn. Ben. Atwell and Israel Nichols, Otsego, N. Y. Oct. 14 ..
Cotton, hay, &c. machine for binding. J. Simmons, Philadelphia Nov. 7 ..
Churn. Enoch Burt, Princeton, N. J. Nov. 20 ..
Circular saw-mill. Geo. Holing, Shaftsbury, Vert. Nov. 24 ..
Compass, mariner's. Wm. Russell, New Bedford, Mass. Dec. 1 ..
Churn. John Whitmore, Litchfield, Conn. Dec. 8 ..
Chain-band with buckets. Stephen Belnap, New York Dec. 28 ..
Churn. Daniel Osburn, Berkshire, Mass. June 8 1810
Carding and spinning wool, by one operation. Alanson Holmes, Pomfret, N. Y. June 8 ..
Coopering machine. Oliver Barber, Hartford, Conn. June 8 ..
Camphor, mode of refining. Henry Mead, New Haven, Conn. Feb. 12 ..
Counterfeits, mode of preventing. Geo. Murray, Philadelphia Feb. 13 ..
Cheese press. E. Raymond, Sherburn, N. Y. Feb. 21 ..
Cotton press. Richard V. W. Thorne & J. Thorne, N. York Feb. 22 ..
Churn. Benjamin Fairbanks, Worcester Mass. March 5 ..
Combs, machine for manufacturing ivory. David Williams, 3d. Saybrook, Conn. March 28 ..
Churn. Aaron Smith, Finsborough, Mass. April 11 ..
Copperplate printing, mode of putting on the ink. Andrew Maverick, New York April 17 ..
Cheese vat for pine apple cheese. Lewis Mills, Norton, Goshen, Conn. April 17 ..

Chimneys, to prevent smoking in. Oliver Richardson, Medway, Mass. April 18 1810
Carbonated silk and paper. Joseph Hartson, Philadelphia April 20 ..
Coaches and other carriages. Frederick Bremler, New York April 24 ..
Cleaning grain from seed, machine for. Wm. H. Peabody, Woodbury, Conn. June 8 ..
Counterfeits, mode of preventing. Jacob Perkins, Boston June 16 ..
Cartouch Boxes, machine for boring blocks for. Valentine Bogenruff, George Town, D. C. July 10 ..
Churn. E. Bacon, Hancock co. Mass. July 26 ..
Cramping Suwarrow boot legs. Eleazer Lumby, New York Aug. 14 ..
Chaise. See *Grecian*. Phineas Dow.
Carbonic acid gas, mode of saturating liquids with. Charles D. Simmons and Jean J. Kindell, Charleston, S. C. Aug. 16 ..
Combs, socket hair. Eli Parsons, Bristol, Conn. Aug. 16 ..
Churn. Simeon Gray, Genessee, N. Y Aug. 17 ..
Carriage block for sawing. Wm. Underwood, Herkimer, N. Y. Sept. 6 ..
Columbian balance. Wm. Granger, Middlebury, Va. Sept. 8 ..
Cancer, composition for curing. Elias Willan, Albany, N. Y. Oct. 8 ..
Currying knife. S. Parsons, Parsonsfield, Mass. Oct. 25 ..
Capstan. See *Windlass*. John Galvid.
Clocks for fluids. Josiah Witherle, Boston Jan. 16 1811
Combustion and explosion. Augustus Day, Bordentown, N. J. Jan. 19 ..
Churn. Joseph Beach, Northfield, Mass. Jan. 24 ..
Cotton gin. R. Hancock, sen. and R. W. Carr, Philadelphia Feb. 6 ..
Churn. Lewis Cleveland, Holliston, Mass. Feb. 7 ..
Corn stalks, making spirits from. J. Saunders, Schennectady, N. Y. Feb. 11 ..
Columbian oil, making. Thos. Paul, Baltimore Feb. 23 ..
Cutting. See *Grain*. John Comfort.
Condensation of vapours. Noel Blanche, New York March 2 ..
Clover-seed, machine for. Nethemiah Price, Frederic co. Md. March 2 ..
Chain paddles for boats Azael Pierson, Cumberland co. N. J. March 2 ..
Condenser. Lyman Cook, Whitestown, N. Y. March 26 ..
Churn. Henry Mumford, Ulster co. N. Y. March 28 ..
Carriages, moved by manuel labour. L. Cook, Whitestown, N. Y. Mar. 28 ..
Cards, machine for straining and grinding. John Boynton, Windham co. Conn. March 30 ..
Cooking stove. Andrew Sherwood, New York April 25 ..
Churn. Daniel Robertson, Franklin, N. Y. May 3 ..
Carriages, in the bodies of. Edward Gibson, New York May 10 ..
Carding machine. Heman Palmerler, Shoreham, Addison co. May 25 ..
China and glass, composition for. Harvey Bascon, Weston, Mass. June 10 ..
Chair bottoms. Abner Ellis, Dedham, Mass. June 12 ..
Cotton-spinning machine. J. G. Baxter, Philadelphia June 22 ..
Chopping meat, &c. Haziel Smith, Philadelphia July 19 ..
Churn, vibrating. Thos. Pratt, Cheshire, N. H. Sept. 12 ..
Churn. J. H. Shepard, Canaan, Mass. Oct. 1 ..
Cutting wheat, &c. W. P. Claiborne, King William's co. Va. Oct. 12 ..
Clapp's crank engine, improvement on. Joseph Clapp, Greenfield, Mass. Nov. 16 ..
Churn. Adam Sheble, Philadelphia Nov. 27 ..
Cotton, machine for roving O. Barrett, jun. Schaghticoke, N. Y. Dec. 3 ..
Cotton. See *Flyers*. Aziriah Walton.
Cotton, &c. machine for spinning. G. Brewster, G. Trumball, and J. Mathews, Bane, Vermont Jan. 16 1812
Cotton, &c. machine for cleaning. E. Raymond, Norton, Mass. Jan. 18 ..
Coaches, &c. construction of. Fred. Biemler, New York Jan. 21 ..
Case[illegible] stove for kettles, &c. Chas. Gaston, Williamsport, Penn. Jan. 31 ..
Chin[illegible]s, backs for. Joel Root, Southington, Conn. Feb. 13 ..
Clocks, pinions of. Ira Ives, Bristol, Conn. Feb. 24 ..
Carriages, construction of. Dan. Neal, Milford, Delaware. Feb. 26 ..
Chimney regulator. D. Shoemaker, Philadelphia Mach 27 ..
Candles from tallow and wax. James Zwisler, Baltimore April 2 ..

Churn, horizontal. John Davidson, Cheshire, N. H. . April 3 1812
Camphire, refining. J. Green, Charleston, Mass. . . April 27 ..
Chair bottoms. J. Elliot, jun. Philadelphia . . April 26 ..
Consumptions, cure for. C. Shaw Long, Philadelphia . April 27 ..
Cheese press. W. W. Townsend, Addison, Vermont . June 13 ..
Canker worm, preventing the. Paul Adams, Newbury, Mass. June 19 ..
Cordage, machine for making. A. Hill, Walpole, N. H. June 30 ..
Candle-holder, economical. P. Ward and B. Allison, Philadelphia July 20 ..
Cloth, machine for finishing, &c. S. Hart, Hampstead, N. Y. July 27 ..
Chain carts and railways. John H. Morrison, Boscawen, N. H. Sept. 28 ..
Cooking apparatus. J. Morris, New Haven, Conn. . Oct. 3 ..
Cider. See *Wine*. Henry Seabolt.
Cloth, made by filting. O. Barrett, jun. Troy, N. Y. . . Dec. 8 ..
Cabouse. John Bouis, Baltimore . . . Dec. 31 ..
Cloth and blanket making. Allen Barnes, Sam. Gray, and Jabez Clark, Windham, Conn. . . . Feb. 3 1813
Carding cloth. John Jessup, Orange co. N. Y. . . Feb. 6 ..
Carding, spinning, and roving. T. Norton and Geo. Biddis, Milford, Penn. . . . . April 15 ..
Carriage to be moved by hand. D. Nine, jun. Reading, Penn. May 4 ..
Cartouch box. Jonathan Mix, New York . . June 3 ..
Cradle. Samuel Pope, Windsor, Conn. . . . June 5 ..
Cloth from hair. W. Shotwell and A. Kinder, N. Y. . July 23 ..
Churn, pendulum. Silas Hitchcock, Vernon, N. Y. . . Aug. 7 ..
Cylindric polisher. Eben Stowell, Middlebury, Ver. . Aug. 20 ..
Comb twinning machine. D. Carrington and Ira Ives, Litchfield Aug. 20 ..
Cylinder, re-acsing, &c. T. Powell, New York . . Dec. 3 ..
Churn. Wm. Humphrey, Ohio . . . Jan. 5 1814
Card boards, smoothing. D. Stearns, Battleboro', Vermont March 10 ..
Comb-cutting machine. J. H. Derby, Leominster . March 26 ..
Canker drops. D. Holbrook, Onondago, N. Y. . . March 28 ..
Cotton, seed machine for hulling. J. Lineback, Salem, N. C. March 31 ..
Corn, machine for planting. John Blocker, Lancaster, Penn. April 12 .
Carriage springs. R. and I. C. Humphreys, Cantwell . April 22 ..
Carding wool. Lewis French, New Haven, Conn. . May 18 ..
Cheese press. Joseph Goulding, Worcester, Mass. . May 27 ..
Cornices for houses. T. K. Beale, Alexandria, D. C. . May 28 ..
Cup and saucer, Columbian. John Love, Baltimore . . June 14 ..
Candles mould and dipt. J. Zwisler, New York . . July 1 ..
Cloth, machine for shearing. B. Swift, Washington, N. Y. July 1 ..
Chimney stove. C. Varle; Fredericktown, Md. . . July 1 ..
Carriages. B. Peck, Philadelphia . . . July 5 ..
Cock stop. D. Sharman, Warren, N. Y. . . . July 5 ..
Clover-seed, machine for cleaning. H. Spickard, Fairfield, Va. Aug. 16 ..
Clocks, pinions for. H. Bronson and J. Curtis, Waterbury, Conn. Aug. 22 ..
Clock wooden J. Harrison, Boston . . . Aug. 22 ..
Clocks, for pointing wire for. A. Sperry, Waterbury, Conn. Aug. 22 ..
Clock plates, boring. Joel Curtis, Cairo, N. Y. . . Aug. 28 ..
Clocks, machine for cutting teeth. Joel Curtis and D. Bradley, Connecticut . . . . Aug. 22 ..
Clocks, machine for cutting teeth. A. Hopkins, Litchfield, Conn. Aug. 22 ..
Chimnies and fire places. Adam Spohn, Comrio, Penn. Sept. 22 ..
Cloth shearing machine. C. H. Orth and Fred. Strohn, Steubenville, Ohio . . . . Oct. 11 ..
Comb twinning machine. S. Hills and Moses Emery, jun. Newburyport, Mass. . . . . Oct. 21 ..
Cultivating the earth. James Hall, Va. . . Nov. 19 ..
Carriages, wheel. Hor. Gates, Spafford, Albany, N. Y. . Nov. 25 ..
Chimnies, machine for sweeping. J. Bruff, Washington, D. C. Dec. 16 ..
Colours, permanent for calicoes. Augustus Bouler . Dec. 24 ..
Carriages, hanging and placing steps. J. J. Wells, Hartford, Conn. Jan. 24 1815
Cleaning wheat. Wm. Davis, Fairfield, Conn. . . Jan. 24 ..
Clover-seed, cleaning. S. Arnold, Bottetort, Va. . . Jan. 25 ..

Cradle. Peter Cooper, Hampstead, N. Y. . . . March 27 1815
Combs, cutting horn or tortoise shell. Simeon Allen . April 1 ..
Colours prepared with lime. J. Nicholas, jun. Bradalbin, N. Y. April 12 ..
Clover-seed, gathering. John Smith, Frederickburg, Va. April 28 ..
Churn. Joshua Lane, Homer, N. Y. . . . May 15 ..
Cotton, machine for drawing, roping, &c. W. Tiffany and P. Allen, Otsego, N. Y. . . . . July 17 ..
Cotton spinning. L. Bissell, L. C. Hinmans, and S. Wilson, Otsego, New York . . . . July 17 ..
Corsets. Mary Brush, New York . . . July 21 ..
Charcoal, making for gun-powder. F. Parker, Prince George's county, Md. . . . . July 25 ..
Cateract, removing by points, &c. F. B. Shaw, Philadelphia July 27 ..
Candle moulds. D. M. Randolph, Richmond, Va. . . Aug. 1 ..
Cards, making machine and hand. W. Barker, Smithfield, R. I. Aug. 12 ..
Cards, compositi on for. John M. Gates, Warren, Mass. . Sept. 14 ..
Carding machine, gleaning savers. J. Hugus, Greenbush, Penn. Sept. 15 ..
Cancers, curing. Jacob Ware, Philadelphia . . Sept. 20 ..
Cooking machine. John Seger, New York . . Nov. 14 ..
Cotton gin. Isaiah Jennings, New York . . . Dec. 27 ..
Churn. A. and H. K. Cornell, Cambridge, New York . Jan. 15 1816
Corn cobs, spirits made from. J. and S. Demund, New Jersey Jan. 17 ..
Carding woollen cloths. J. A. Christie, Elizabeth town, N. J. Jan. 24 ..
Cheese press. J. Bigelow, Mount Pelier, Ver . Jan. 25 ..
Cock, block tin stop. John Morris, New Haven, Conn. . March 7 ..
Carpenter's sliding dovetail joint. G. B. Raymond . March 26 ..
Combs, making. Eli Sperry, New Haven, Conn. . . March 28 ..
Churn. John Erving, Boston . . . April 30 ..
Cutting comb teeth. M. J. Littleboy, Philadelphia . . May 28 ..
Clocks, 30 hours, brass and wooden. E. Terry, Litchfield, Conn. June 12 ..
Chair, eagle. Wm. J. Weaver, New York . . June 14 ..
Charcoal, making. Andrew Kurtz, Philadelphia . . June 28 ..
Combs, machine for twinning. Sam. Parmele, Saybrook, Conn. July 15 ..
Cutting machine for beating and bruising. Adam Britz, Phil. July 18 ..
Churn. Artimas Bills, Baltimore . . . July 29 ..
Cancers, cure for. James Andrus, Hillsborough, N. H. . July 30 ..
Churn. Ben. Webb, Tolland, Conn. . . . Aug. 22 ..
Cyder and vinegar made of offals. W. Richardson, Kingston, N. Y. Aug. 26 ..
Coquing, or dowelling instrument. W. Bowhay, Philadelphia Oct. 14 ..
Catheter, flexible metallic. Israel Balch and Moses Carter, Salisbury, Mass. . . . . Oct. 26 ..
Chairs. See *Posts for.* Elijah Farrington, New York
Chair bottoms. John Wall, Philadelphia . . Oct. 29 ..
Cotton gin. Englehart Cruse, Charleston, S. C. . . Nov. 18 ..
Churn. Abel Bradway, Monson, Mass. . . Nov. 25 ..
Cotton gin. Isaiah Jennings, New York . . Jan. 17 1817
Cards, making, grinding, &c. G. Drake, Windsor, Conn. . Feb. 28 ..
Couch, accommodation. John Mead, Albany, New York March 14 ..
Convalescent chair. John Mead, Albany, New York . March 13 ..
Composition for covering houses. A. Rogers, Hudson, N. Y. March 14 ..
Compressed air, to propel boats by. J. L. Sullivan, Boston March 24 ..
Chimnies, construction of. L. D. Detroismonts, N. Y. . April 5 ..
Copy-books, composition for. Richard Wall, Philadelphia April 28 ..
Cloth, shearing machine. James Collins, Anson, Somerset, Md. June 10 ..
Combs, machine for cutting. T. G. Thomas, Philadelphia June 14 ..
Chimnies, machine for sweeping. J. Hunt, Baltimore . July 12 ..
Cloth shearing machine. Eliphalet Remington, Frankfort, N. Y. Aug. 13 ..
Comb, machine for twinning. D. E. Noyes, Philadelphia Sept. 6 ..
Carriage life preserver. H. G. De Grandval, Portsmouth, H. H. Oct. 3 ..
Carriages. Ben. Had, Newburyport, Mass. . Oct. 4 ..
Cordage, machine for laying. C. Lenox, Sargent, Suffolk, Mass. Oct. 4 ..

Cordage, machine for making. S. and J. A. Bazin, Canton, Mass. Oct. 17 1817
Candle moulds. Joshua Witherle, Boston . . Oct. 24 ..
Cloth, milling, fulling, &c. M. Lee, Otsego, N. Y. . . Nov. 6 ..
Cement to be used under water. John Grant, Saratoga, N. Y. Nov. 11 ..
Chimnies, machine for sweeping. E. Paine, Philadelphia Dec. 11 ..
Cotton hopper. Gurdon F. Saltonstall, Cumberland, N. C. Dec. 31 ..
Cannon, mode of pointing. J. Blach, Northumberland, Penn. Jan. 17 1818
Cloth shearing machine. Wm. Stillman, R. I. . . Jan. 17 ..
Combs, horn. Macpherson Smith, Poughkeepsie, New York Jan. 20 ..
Combs, metallic. W. A. Langworthy, Balstown Springs . Feb. 28 ..
Cloth shearing machine. D. Dewy, Poultney, Rutland, Va. March 16 ..
Churn. Nathan Porter, Hartford, Conn. . . April 7 ..
Cutting machine for soft substances. A. King, Lancaster, Penn. May 28 ..
Churn. T. T. Storm, New York . . . May 28 ..
Combs, metal hair. Lineus North, Otsego, N. Y. . . May 28 ..
Circular saw. W. F. Hill, New York . . . July 11 ..
Casks, making. J. Little, Hillsborough, N. H. . . July 25 ..
Cotton yarn, machine for spinning. P. Arnold, Conn. . Aug. 1 ..
Combs, manufacturing. D. Pettibone, Philadelphia . Aug. 18 ..
Crystallizing tin. G. F. Valentine, Albany . . Aug. 26 ..
Cloth shearing, knapping, &c. machine for. John J. Bryent, Andover, New Hampshire . . . Sept. 2 ..
Cotton, machine for roping, winding and twisting. David Grieve, Providence, R. I. . . . . Sept. 18 ..
Columns, machine for ornamenting. C. Durand, Springfield, N. J. Sept. 22 ..
Carriages, improvement in. J. B. Swan, Albany, N. Y. . Sept. 23 ..
Catch for window-shutters, improvement in the. Noble Hurdle, Georgetown, D. C. . . . . Oct. 1 . ..
Chopping sausage meat, machine for. David Beissel, Harrisburg, Penn. . . . . Oct. 26 ..
Cotton, machine for inspecting. Lewis Viales, New Orleans Oct. 29 ..
Corn sheller, improvement on Z. Phinneys. Hugh Gallagher, Pittsburgh, Penn. . . . . Oct. 29 ..
Castor oil, clarefying. J. Hallock, Philadelphia . . Nov. 5 ..
Cloth, machine for napping, &c. L. and J. Prescott, Pittsburg Nov. 5 ..
Coaches, improvement in the springs for. M. H. Boneville, Canterbury . . . . . Nov. 17 ..
Conduit pipes, improvement in. Joshua Clarke and L. Crowell, Dec. 18 ..
Conduit pipes, improvement in. Elisha Putnam, Albany, N. Y. Nov. 18 ..
Cloth, machine for teazling and napping. A Foster, Putney, Vert. Nov. 25 ..
Cordage, machine for making. William B. Leonard, Fishkill, N. Y. Jan. 9 ..
Corks, machine for making bottle. James Barron, Hampton, Vir. Jan. 12 ..
Cooking stove. Palmer Jenkins, Hebron, Washington co. N. Y. Feb. 6 ..
Churn. Joseph Lloyd, Orange Co. N. Y. . . . March 2 ..
Cloth shearing machine. S. Parsons, Hoosack, Ranslaer co. N. Y. March 2 ..
Churn. William L. Fraser, Oxford, Chinago co. N. Y. . March 19 ..
Chronometer. Samuel S. Edmonston, New York . . April 3 1819
Cordage. machine for making. Robert Graves, Boston . April 10 ..
Clearing obstructed channels or docks, machine for. T. Baker, Providence, R. I. . . . . April 12 ..
Corn shelling machine, improvement in the. Walter Jones, Ashford, Connecticut . . . . . May 6 ..
Composts for soils. Anthony B. Martin, Baltimore . . May 29 ..
Carbonated mead. James Heaton, New York . . July 28 ..
Cultivator, American. Fred. Miner, New London, Conn. Aug. 21 ..
Cast steel welded to iron. Dan. Pettibone, Boston . . May 21 ..
Cards, machine for pricking holes in leather. J. Lamb, Leicester co. Aug. 21 ..
Coaches, improvement in. S. Draper, Brookfield, Mass. . Aug. 26 ..
Carbonated liquid cream tartar. Sophia Usher, New York Sept. 11 ..
Cotton-seed, food for cattle. Dan. Gillet, jun. Springfield, Mass. Sept. 15 ..
Comb cutting machine. D. E. Noyes, Philadelphia . Oct. 14 ..
Comb cutting machine. Nison Foot, Philadelphia . . Oct. 28 ..
Combs, machine for making. Ben. Haskill, Paris, Fr. . Nov. 3 ..
Cleaning streets, roads, &c. John Tucker, New York . Nov. 10 ..

D.

Distilling of liquor. Aaron Putman, Medford, Mass. . Jan. 29 1791
Distilling. Nathan Reed, Salem, Mass. . . . Aug. 29 ..
Docks or harbours, machine for cleaning or deepening. P. Zacharie, Baltimore, Md. . . Nov. 24 ..
Distilling spirituous liquor. Joseph Simpson, Richmond, Va. March 4 1794
Duck sail weaving. James Davenport, New Jersey . Feb. 14 ..
Docks and harbours, a machine for cleaning. Stephen Colver, Dec. 14 1798
Dough and paste, breaking. Daniel Pettibone . . Nov. 16 1796
Distilling. See *Evaporation.*
Docks, machine for cleaning out. John Greenleaf . . July 13 1802
Dry docks, improvement in erecting. John Gardiner . Dec. 3 ..
Distilling spirits, improvement in. Daniel Ilsley . . May 14 1803
Distillation by steam in wooden or other stills. E. and Thomas West, Fayetteville co. Ken. . . . July 8 ..
Double draught fire place. Talmage Ross . . Jan. 23 1804
Double steam bath still. John James Giraud . . April 18 ..
Double crank. See *Fulling Mill.*
Dough, machine for breaking. Laban Folger, Hingham, Mass. Nov 1 ..
Distillation. See *Boiling.*
Dye woods, machine for grinding, sawing. John Mathews, Phil. Aug. 13 1805
Distilling apparatus. A. Heistand, Yorktown, Penn. . Nov. 27 ..
Dough, machine for making. Geo. Richards, Stonington, Conn. Feb. 14 1806
Dressing flax. Elisha Mack . . . March 21 ..
Diving machines. Richard Tripe, Dover, New Hampshire April 1 ..
Dye woods. See *Grinding, &c.*
Double forcing pumps. Charles Colver, Champlain, N. Y. April 1 1807
Distilling, apparatus for. A. Weaver, Adams co. Penn. . April 23 ..
Door hinge. See *Friction Roller.*
Distilling or boiling water. Eli Barnum and Ben. Brooks, New Marlboro' Mass. . . . . March 21 1808
Door hinge. See *Friction Roller.*
Double lever press. Caleb Johnson, New Glasgow, Va. . June 3 ..
Dye woods, machine for rasping. Jesse Reed, Boston . June 3 ..
Distilling. E. Barnum and B. Brooks, New Marlboro' Mass. July 13 ..
Double. See *Boiler.*
Dipping. See *Candles.*
Distilling apparatus. A. Bouchrie, Philadelphia . . Jan. 3 1809
Dyeing of silk goods, machine for. W. Barret . June 27 ..
Dye wood, machine for cutting. E. Hubbell, Middlebury, Vert. June 27 ..
Delaware Spinner. J. Alricks, Wilmington, Del. . . Oct. 11 ..
Distilling apparatus. W. Chamberlain, Vert. . . March 17 1810
Dough, machine for breaking. C. Barnard, Nantucket, Mass. April 17 ..
Distilling by steam. John Morris, Bennet, Middletown, Conn. May 1 ..
Distilling apparatus. A. Tobey, Alford, Mass. . . June 21 ..
Drying grain of all kinds. B. Parry, Bucks co. Penn. . July 7 ..
Distilling. M. Garden, Staunton, Va. . . . July 13 ..
Draining plough. Stephen Hall, Boston . . . July 13 ..
Dye woods, machine for cutting. I. Richards, 3d. Norfolk, Conn. Aug. 13 ..
Domestic spinner. E. Heavrick, Albany, N. Y. . . Aug. 17 ..
Diving dress. Chancey Hall, Connecticut . . Dec. 24 ..
Drying fuel for glass furnaces. James Lee, Philadelphia Jan. 14 1811
Distilling essential oils. D. Jewet, Pitsfield, Mass. . . Jan. 24 ..
Distilling. Jacob Miller, Lancaster, Penn. . . March 2 ..
Distilleries and kitchens. William Gamble, Washington, D. C. April 18 ..
Dye woods, machine for rasping. Samuel Stone, Enosburg, Va. May 3 ..
Distilling. Andrew Dunlap, Boston . . . . May 3 ..
Distilling. J. James Giraud, Baltimore . . . June 14 ..
Distilling and refining apparatus. Jacob Sherer and Abram. Killan, Lancaster, Penn. . . . . June 17 ..
Drying house for drying fruit. S. Strong, Wilkestownship, Ohio Sept. 2 ..
Distilling at one operation. Jonathan Shaw, Palmer, Mass. Nov 13 ..
Distilling. Lewis Lescesne, Belleville, N. J. . . Dec. 4 ..

Dock, floating dry. Samuel Rose, N. Y. . . . June 15 1811
Distilling. Omri Carrier, Enfield, Conn. . . . Nov. 2 ..
Distilling. Omri Carrier, Enfield, Conn. . . . Jan. 18 1813
Distilling. John Bates, Hartford, Conn. . . . Jan. 26 ..
Distilling and boiling liquors. J. Morris, New Haven, Conn. March 3 ..
Drawing wire, machine for. John J. Staples, Flushing, N. Y. May 10 ..
Dies, circular, improvement on Perkins'. Jacob Perkins and Geo. Murray, Philadelphia . . . . June 25 ..
Distilling, a cylinder heater for. C. Jenks and Abiel Perse, East Windsor, Conn. . . . . July 12 ..
Die work, instead of etching. A. Brewster, Frankfort, Penn. July 15 ..
Distilling, heating the mash for. T. Balden, Hartford, Conn. Aug. 18 ..
Distillation, heating water for. A. Anderson, Philadelphia Oct. 27 ..
Distilling apparatus. I. Hoffman, Shawangunk, N. Y. . Dec. 31 ..
Dye woods, for rasping and grinding. Joseph Broad, Springfield, Mass. . . . . March 1 1814
Distillation. John W. Alder, Pennsborough, Penn. . April 29 ..
Distilling. Wm. M. B. Wollias and H. P. Barlow, Oneida co. N. Y. May 6 ..
Dye stuffs, cutting. Aaron Broad, Litchfield, Conn. . June 9 ..
Dies for metals. Ben. Mead and Giles Richards, Boston . July 2 ..
Distilling from grain, &c. Simon Shurtliff, Oneida co. N. Y. July 5 ..
Distilling by steam. David Dewy, Sullivan, N. Y. . . July 5 ..
Dyeing silks. T. Harrison and Robert Pierpont, New York Oct. 18 ..
Distilling. Naphtali Hart, Easton, Pennsylvania . Oct. 29 ..
Distilling by steam, &c. Enos Brown, Oneida co. N. Y. Jan. 23 1815
Distillation, cooling mash for. Thos. Whitemell, Scotland Neck, N. C. . . . . Sept. 2 .
Distilling turpentine, tar, &c. Wm. Adam Rapp, New York Dec. 4 ..
Distillation by steam. Hezekiah Kelly, Brooklyn, N. Y. Feb. 16 1816
Dye woods, saw mill for. John Elder, Hamilton, Mass. Feb. 16 ..
Dye woods, saw mill for. John Elder, Hamilton, Mass. April 11 ..
Distilling and rectifying, &c. John Whips, Jefferson co. Ken. April 22 ..
Danger scape. Wm Start, Greensborough, Md. . . May 3 ..
Distilling. Norman Goodsell, Paris, N. Y. . . June 13 ..
Distilling. Wm. Richardson, Kingston, N. Y. . . June 15 ..
Distilling. E. Talmage, Lancaster, Ken. . . July 8 ..
Distilling. Amos Blood, Boston . . July 16 ..
Double stave and parallel jointer. J. S. Keen, Phil. . Oct. 1 ..
Docks projecting. Moses Rogers, N. Y. . . Jan. 7 ..
Dye woods, machine for rasping. Beriah Swift, Washington, Duchess co. N. Y. . . . Feb. 1 1817
Dry docks, rotary. Joseph Webb, N. Y. . . May 3 ..
Dyeing and finishing silk goods. A. Stearns and W. Barret, Cambridge, Mass. . . . Jan. 30 1818
Drill for potatoes. George Harper, Jenkington, Penn. March 23 ..
Dogs, a new power. A. Tienan, New York . April 27 ..
Dyeing and finishing silk. A. Stearns and W. Barret, Boston Sept. 8 ..
Distilling, improvement in. Pierce Woods, Fred. co. Md. Sept. 29 ..
Distilling, improvement in. Charles Merot, Philadelphia . Nov. 5 ..
Dry dock, floating. Albert Brux, Augusta, Georgia . . Nov. 6 ..
Double Speeder. Wm. Hines, Coventry, R. I. . . Feb. 6 ..
Dyeing, tanning, &c. chesnut used in. W. Sheldon, Springfield, Hampton co. Mass. . . . . Feb. 26 ..
Distilling, improvement in. James Caze, New York . March 18 ..
Double speeder for roping cotton. Paul Moody, Boston April 3 ..
Distilling, apparatus for. Henry Field, Camillus, New York June 17 ..
Domestic spinner. John Brown, Providence, R. I. . July 22 ..
Diving-drum. Jasper Johnson, Albany, N. Y. . . July 31 ..

E.

Engine, improvement in fire. Jesse Kersey, . . April 13 1797
Engine, a capstan fire. Sam. Eli Hamlin . . Aug. 30 1799
Evaporation, improvement in. T. Bedwell and B. Henfrey, Phil. Feb. 12 1801

Evaporation, mode of increasing for the purpose of distilling. B. Henfrey, Lancaster co. Penn. . . . Mar. 2 1801
Engraving, improvement in the art of. J. Hutton and G. Fairman, Albany, N. Y. . . . . Jan. 8 1802
Essence of bark for dyeing, mode of extracting. Sam. Downing, Trenton, N. J. . . . . April 19, ..
Economical house and ship steam kitchens. N. Bourean, Alexandria, D. C. . . . . Aug. 30 ..
Evaporating furnace. John Richardson . . . Sept. 13 ..
Evaporating furnace, improvement in. J. Richardson, Athens, Pennsylvania . . . . . April 4 1803
Extinguishing fires. See *Fires.*
Earth, machine for raising and removing. J. Platt, Albany, N. Y. May 4 1805
Earth, machine for removing, &c. Jacob Welsh, Boston May 6 ..
Essence of tansy. Israel Newton, Norwich, Va. . . Feb. 28 1806
Evaporation. Thomas Arnold . . . . March 5 ..
Egyptian lock. A. Ogier, Stansbury, N. Y. . . . Feb. 11 1807
Economical furnace, or stove. Joseph Poudrell, New York April 6 1808
Elastic chair. Sam. Gragg, Boston . . . . Aug. 31 ..
Elastic trace and brace. Ben. Giddins, Baltimore . . Dec. 10 ..
Elevator, water. John Henrick, jun. Albany . . . Feb. 1 1810
Explosion. See *Combustion.*
Expanding and folding wheel. H. Steward, Clark co. Indiana, Jan. 24 1811
Evaporation, making salts by. B. Wildborn, Washington, N. Y. Feb. 4 ..
Elevator for the use of the sick. J. Elliot, Newbury, Mass. Feb. 15 ..
Electrophorus. David F. Lamy, Philadelphia . . . Aug. 23 ..
Elixir, restorative. H. Frink, Northampton, Mass. . Jan. 6 1812
Elevator and hopper boy. Sam. Walgemoore, Washington, D. C. Feb. 22 ..
Elevating grain, &c. Jeremiah Bailey, Kennet Square, Penn. June 19 ..
Edge tools, steel for. Elisha Gordan, Philadelphia . . June 26 ..
Extracts from barks, obtaining. Wm. Greene Jessender, Walpole, N. H. . . . . Oct. 20 ..
Elevator for raising fluids, &c. R. Christy, Jefferson co. Va. Nov. 21 ..
Engine, water. Joel M. Dupery, Woodford, Ken. . . April 13 1814
Evaporator for salt water. Wm. M. Hawkins, King and Queen's co. Virginia . . . . . April 23 ..
Etching the end pieces of bank notes. Henry S. Tanner, Phil. July 1 1815
Evaporate and steam engine. David Heath, Philadelphia July 26 1816
Electrical apparatus. T. Brown, Albany, N. Y. . . Dec. 20 ..
Elixir of life. Julius Rucco, Baltimore . . . March 29 1817
Excavating plough. James Richmond, Hudson, N. Y. . June 28 ..
Elastic clamp. Tibbs Rowel Hoyt, Goffstown, N. H. . Dec. 6 ..
Emery making. Wm. Garratt, New London, Otsego co. N. Y. Feb. 27 1818
Engines for mills on brooks. Jacob Toller, Philadelphia . July 13 ..

F.

Fire, to rescue from. See *Construction.*
Fire, to stop the progress of. B. Taylor, N. Y. . . March 23 1794
Fish, improvement in the manner of catching. J. Ellicot, Penn. March 25 1795
Flax and hemp, spinning of. See *Hemp and Flax.*
Flour and meal, improvement in manufacturing of. Oliver Evans, Philadelphia . . . . . Dec. 18 1796
Forgeries, to prevent. See *Punches.*
Fire engine. See *Engine.*
Fire place, improvement in. C. W. Peal . . . Nov. 16 1797
Flax and hemp. See *Mill.*
Force obtained by water. S. Morey, Alford, N. H. . . Nov 17 1800
Flax, machine for breaking. John Cannon . . . Jan 17 1801
Flax breaking, machine for. John Cannon, Wilmington, Del. Jan. 17 ..
Forcing pump. John Evelth, Providence, R. I. . . June 13 ..
Fish, improved mode of carrying in warm weather. N. Robins, Burlington, N. J. .. . . . . March 11 1802

Flat-roofed houses and balconies, improvement in. Henry Johnson, Baltimore . . . . May 1 1802
Fire-stop, improvement in the. Elisha Putman . . Aug. 24 ..
Finding salt water and metals. V. Cook, Kentucky . Nov. 1 ..
Fire engine, improvement in. Stephen Stewart . . Dec. 6 ..
Fire place. See *Double Draught.*
Fastenings or springs. See *Window.*
Fires, method of extinguishing in houses. Sam. F. Lord, jun. March 10 1803
Flax seed, machine for cleaning. Paul Gottry . . April 24 1804
Fan. See *Columbian.*
Fulling mill, improvement in; called the double crank. Levi Osborn . . . . . July 12 ..
Forcing pump to raise water. Aaron Taylor . . Oct. 4 ..
Filtering machine. Dan. M. Mullen and Thos. M'Cordy, Phil. Nov. 16 ..
Fire, composition to prevent houses from catching. D. Stodder Nov. 16 ..
Fire place. See *Close.*
Flour mill. Sam. Church, Amherst, Mass. . . May 4 1805
Fanning mill. See *Smut, &c.*
Fluids, machine for raising. D. Tomlinson, Brookfield, Conn. May 27 ..
Flax. See *Dressing.*
Fulling mill and washing machine. John Kennion, Duchess co. New York . . . . March 26 1806
Filtering impure water and wine, &c Solomon M'Combs, Joseph Smith, and Ben. D. Galpin, Baltimore . . May 24 ..
Fire place with a flat funnel. Abraham Fisher . . Feb. 17 1807
Fire brick, mode of making. Eben. Jenks, Canaan, Conn. Feb. 17 ..
Fire places and stoves, improvement in. A. Pollock, Boston, April 23 ..
Fire engine, improvement in. Jacob Smith, jun. New York May 20 ..
Filtering pot. Michael Freytag, Philadelphia . . July 1 1807
Flour and meal, mode of manufacturing. O. Evans, Philadelphia Jan. 22 1808
Fire places, or open stoves, improvement in. J. F. Gould, Newbury Port, Mass. . . . . Feb. 1 ..
Fanning mill for grain, &c. Sam. Dodge, Cleveland, Ohio Feb. 9 ..
Forcing pump, with double action. E. Cady, jun. Chatham, N. Y. Mar. 9 ..
Fire places, improvement in. G. Gridley, Newbury Port, Mass. Mar. 14 ..
Fanning mill for grain or clover seed, &c. O. Barrett, jun. Sandy Hill, New York . . . . Mar. 23 ..
Furnace or stove. See *Economical.*
Friction, mode of lessening in carriages. Robert Kilborn, Great Barrington, Mass. . . . . April 12 ..
Faucets for drawing liquors. Ira Ives, Bristol, Conn. . April 14 ..
Friction roller, door hinge. John Bailey, jun. Plymouth, Mass. May 16 ..
Floating dry dock. Wm. Rhodes, New York . . May 16 ..
Funnels for fluids. Philip Apple, Philadelphia . . July 13 ..
Fanning and winnowing mill. Ben. Atwell, Burlington, N. Y. Sept. 19 ..
Forcing pump. See *Pneumatic.*
Fastening window shutters. J. Blanchard, New York . Jan. 14 ..
Flax and hemp, machine for dressing. Richard S. Chappel Pawlet, Rutland co. N. Y. . . . . Jan. 18 1809
Flax and hemp machine. Eli F. Hill, Onandago, N. Y. . Feb. 11 ..
Fur cutting machine. E. Cutters, Battleboro', Va. . March 1 ..
Finishing silks. See *Silks.*
Frame for finishing. See *Dyeing.*
Flax dressing machine. J. Barlow, Granville, Mass. Aug. 23 ..
Furrowing, machine for. M. and I. Nichols, Otsego, N. Y. Oct. 12 ..
Flexable platform for giving motion. John Johnson, jun. Charleston, S. C. . . . . Nov. 22 ..
Fishing seine. P. Groff, Little York, Penn. . . Dec. 16 ..
Felloes, machine for sawing. W. F. Sheffield, N. Y. Dec. 20 ..
Floating mill and silent fisher. E. Ford, Charleston, S. C. Dec. 20 ..
Funnel with a vent. D. Clarke, West Stockbridge, Mass. April 9 1810
Flax machine. Oliver Wilde, Canaan, N. Y. . . April 16 ..
Fur cutting machine. Martin Clark, New York . . April 21 ..

Felloes, machine for dressing. S. Church, Amherst, Mass. April 25 1809
Fanning mill. Sam. Snedeker, Johnstown, N. Y. . . April 27 ..
Fur cutting machine. Eleazer Sprague, Danbury, Conn. May 1 ..
Fire places. Eben Whiting, Great Barrington, Mass. . June 18 ..
Fire places. Do. Do. Do. . June 27 ..
Flax and hemp, machine for breaking. N. P. Robinson, Fleming county, Ken. . . . . Aug. 31 ..
Forcing pump for fire engines. Eli Smith, Palmer, Mass. Nov. 6 ..
Fire places, grated. Aug. Brown, Fredericktown, Md. . Nov. 24 ..
Frictionless cylinders. John P. Sawin, Roxbury, Mass. Jan. 24 1811
Felloes for wheels. J. Goulding, Leicester, Mass. Feb. 28 ..
Fire cavern. Abraham Quincy, Boston . . March 20 ..
Fire places. Peter Stemberg, Montgomery, N. Y. March 28 ..
Floating engine for supplying ships. J. P. Randolph, N. Y. April 25 ..
Flax and hemp break. E. Rumsay, Christian co. Ken. April 25 ..
Flax and hemp break. J. C. Johnson, Fayette co. Ken. May 16 ..
Fire arms. W. Thornton and J. H. Hall, Washington May 21 ..
Fur cutting machine. J. Whetherle, Boston . May 28 ..
Fanning mill. J. W. Jessup, Frederickstown, Md. June 18 ..
Flax and hemp, break for. Robert Miller, Lexington, Ken. July 13 ..
Flax and hemp, break for. Jacob A. Dana, Cassanovia, N. Y. July 23 ..
Fish. See *Wear*.
Files, machine for cutting. E. Gehbe, North Hampton co. Penn. Oct. 10 ..
Flax and hemp, breaking. Wm. Harper, Richmond, Va. Oct. 15 ..
Flax and hemp, breaking. A. Tanner, Trumbull co. Ohio Oct. 24 ..
Fire places, improvement in his. Peter Sternberg, Montgomery county, N. Y. . . . . Oct. 28 ..
Flyers, for spinning cotton. A. Watton Keene, N. H. Jan. 6 1812
Febrifuge. A. Johnson, North Cumberland, Penn. . . Jan. 11 ..
Flax and hemp for roving, &c. Wm. Griffen, New York . Jan. 11 ..
Flax and hemp, substitute for. C. Whitlow, N. Y. . . Jan. 11 ..
Fanning mill. Thomas S. Barnum, Sharon, Conn. . . Jan. 15 ..
Files, machine for cutting. M. Burke, Belknap, Brimfield, Mass. Jan. 16 ..
Flour manufacturing. J. R. Madison, New York . . Jan. 27 ..
Furnace for heating ovens. A. H. Quiney, Boston . Feb. 17 ..
Fish glues. See *Icthryocalla*.
Flax and hemp preparing. John Owings, Baltimore . March 5 ..
Flax and hemp. See *Spinning*.
Fire Engine. See *Pump*.
Forts. Edward Clark, Philadelphia . . . April 2 ..
Files cutting. C. Hesser and A. Paxton, Philadelphia . April 11 ..
Files cutting. Levi and David Anderson, Philadelphia . April 20 ..
Fire places, fluted back. Eli Mix, New Haven, Conn. . April 25 ..
Faucet, plugged. Wm. Jones, New York . . May 13 ..
Fair dealer, or the charta lusoriæ. Robert Bailey, Washington May 15 ..
Fur skins, machine for cutting. Ira Ives, Bristol, Conn. May 19 ..
Foot stove, with stone heaters. A. H. Quincy, Boston June 13 ..
Files, machine for cutting. M. Burk, Belnap, Worcester, Md. June 14 ..
Flax dressing machine. J. Hawes, Hudson, N. Y. . . June 19 ..
Files, rasps, &c. machine for cutting. S. Gilman White, Haverhill, Mass. . . . . July 11 ..
Fire engines. I. Hathaway, Walton, N. Y. . . Aug 6 ..
Fire engines. A. Pollock and J. Perkins, Boston . . Aug. 6 ..
Fumiductors. W. A. Baron, N. Y. . . . Sept 10 ..
Flier for spinning cotton. M. Newton, Fitchburg, Mass. Sept 28 ..
Feather cloth. J. and B. Sizer, N. London, Conn. . . Oct 21 ..
Fuel, saving of. Zina Phinney, Cairo, New York . Oct. 31 ..
Files, machine for cutting. Wm. T. James, Greenwich, N. Y. Nov. 19 ..
Flier for spinning. Nath. Giles, Fitchbury, Mass. . . Nov. 19 ..
Felting, machine for making of. O. Barrett, jun. Troy, N. Y. Dec. 8 ..
Fire engine. John Achman, Washington, D. C. . . Dec. 30 ..
Fire place and chimney, &c. Sam. Morey, Philadelphia . Jan. 18 1813
Fur cutting machine. Ephraim Cutter, Walpole, N. H. . Feb. 4 ..

Fever medicine. Sam. Thompson, Surry, N. H. . . . March 2 1813
Fire places. David F. Launy, Philadelphia . . . March 18 ..
Fire engines. Jacob Perkins, Newbury Port, Mass. . March 23 ..
Furnace for casting brass, &c. portable. J. Share, Baltimore March 30 ..
Flax and hemp breaking. Ira Millard, Kent, Conn. . May 6 ..
Flax and hemp machine. Francis Hill, Tennessee . . Oct 7 ..
Flood gate. Ben. S. Hort, Georgetown, S. C. . . Oct 9 ..
Fire places. John C. Brush, Washington . . Jan. 28 1814
Files cutting. C. and D. Platt, Shawn, Conn. . . March 7 ..
Furnace for melting ores, &c. T. Gregg, Connellsville, Penn. March 16 ..
Furnace for melting ores. T. and J. Barnhurst and Wm. Walker, Philadelphia . . . . May 14 ..
Files, cutting. Silas Hawes, Bennington, Va. . . May 11 ..
Fire proof ceiling. Ben. J. Harris, Richmond, Va. . May 17 ..
Flax and hemp, dressing. G. H. Rickets and John Kinney, jun. Mount Pleasant, N. J. . . . July 12 ..
Flax and hemp, dressing. Do Do Oct. 24 ..
Fanning mills. Samuel Fitch, Homer, N. Y. . . Oct. 29 ..
Flax and hemp, machine for spinning. J Francis, Chappins, N. Y. Nov 8 ..
Flax and hemp, machine for preparing. P. Antrim, Philadelphia Nov 25 ..
Fanning mill. Joel Soper, Windsor, Conn. . . Dec 3 ..
Fishing vessel and nets. James Wills, jun. Galloway, N. J. Dec 17 ..
Fur cutting machine. Wm. Jackson, Burlington, N. J. Feb 2 1815
Fur pulling machine. Do Do . Feb 2 ..
Furnaces and fire places. Peter Tomlinson, Derby, Conn. March 7 ..
Floating battery. George Stiles, Baltimore . . April 4 ..
Files, machine for cutting. John Hatch, Dedham, Mass. May 16 ..
Fulling mill. Asa Danielson, Otsego, N. Y. . . May 16 ..
Fire places, construction of. E. Bartholomew, and Wm. Church, Boston . . . . Aug. 18 ..
Fort stove. Allen Greely, Oxford, Mass. . . Dec. 23 ..
Filtering water. Joseph Du Commun, New York . Feb. 10 1816
Fan for cleaning wheat. Wm. Adams, Va. . . March 1 ..
Franklin stove. James Wilson, Poughkeepsie, N. Y. . March 9 ..
Fan for wheat. S. Weaver. Frederick co. Md. . March 11 ..
Fire places. E. Rand, Hudson, N. Y. . . . March 27 ..
Fur cutting machine. D. Beard, Guilford, N. C. . . April 30 ..
Flax and hemp, machine for dressing. C. and W. A. Benton Armenia, N. Y. . . . . May 22 ..
Fanning mill for cleaning wheat. B. D. Beecher, New Haven, Conn. . . . . May 30 ..
Flax and hemp breaking. T. Pullen, Lexington, Ken. June 20 ..
Franklin stove, improvement in the. J. T. Van Sicker, Poughkeepsie, N. Y. . . . . July 3 ..
Flax and hemp prepared. W. Hickingbottom, N. Y. . July 12 ..
Floating wheel. J. Owings, Baltimore . . . Sept. 9 ..
Floating valve wheel. I. J. Richardson, Geneva, N. Y. . Sept. 26 ..
Fur cutting and cloth shearing machine. B. Martial and D. Johnson, Concord, N. H. . . . . Dec. 7 ..
Floating dry dock. J. Adamson, Boston . . Dec. 13 ..
Floating machine, for mud. S. Davis, Baltimore . . Jan. 22 1817
Fire places. Levi Shepherd, Mass. . . . Jan. 25 ..
Folding paddle. Eben. Jenks, Colebrook, Conn. . June 6 ..
Fire places. Wm. Salisbury, Derby, Va. . . Aug. 16 ..
Fires, mode of extinguishing. See *Chimnies.*
Flour worm for cooling flour. J. Smelzer, Adams co. Penn. May 6 1818
Farmer's spinner, for wool. John Brown, Providence, R. I. May 12 ..
Files, machine for cutting. Cyrus Jackson, Butternuts, N. Y. May 28 ..
Furnace and boilers for manufacturing salt. Samuel Anthony, Lynchburg, Va. . . . . May 29 ..
Flax and hemp, machine for breaking. W. Van Duzer, Warwick June 30 ..
Ferry boats. Thomas Cahoon, Pittfield, Mass. . June 25 ..
Fire places and stoves. E. Haskell, N. London, Conn. June 25 ..

Fire places and stoves. Chauncey Guernsey, Poultney, N. Y. July 7 1813
Fur extracting hair from. John Hollingshead and Daniel Baker, Trenton, N. J. - - - Aug 19 ..
Fetters for horses. Joseph Watson, New Canaan, Conn. Jan. 15 1818
Fan for cleaning wheat. Edward Brooks, Wilmington, Del. Jan. 28 ..
Founder's moulding dies. Eben. Bryant, New London, Conn. March 18 ..
Fire engine. John Richardson, jun. Shrewsbury, Mass. July, 24 ..
Fire places, improvement in. Eben Jenks, Colebrook, Conn. Sept. 2 ..
Fire places, improvement in. Elephalet Nott, Schennectady, N. Y. Feb. 3 1819
Floor cloths, paper. Francis Guy, Baltimore . . Feb. 23 ..
Fly wheels used as a power. John Ardronat, New York April 26 ..
Fire places, close and open. John C. Brush, Washington, D. C. Aug. 19 ..
Ferry boats, propelling. Robert Speeden, Easton, Md. Aug. 26 ..
Flood gates for mills J. Lucas, jun. Charleston, S. C. Nov. 6 ..

G.

Gin, cotton. See *Cotton Gin.*
Grain and corn, thrashing of. Samuel Mulliken, Philadelphia March 11 1791
Gun powder. Henry Keyser, Philadelphia - - Aug. 10 1791
Grain thrashing, &c. Wm. Hodgson, Va. - - March 28 1794
Thrashing of / Cleaning of } Wheat. See *Wheat.*
Cleaning of seed. See *Seeds.*
Glass, apparatus for cutting. Benjamin Du Val - Feb. 14 1799
Grist mills, improvement in. Benjamin Tyler - - Feb. 20 1800
Gin for cotton. See *Cotton Gin.*
Grain separated from straw, machine for. Chris. Hoxie, Hudson, New York - - - - Aug. 25 1801
Gin rollers metallic, for cleaning cotton. G. F. Saltonstale, Fayetteville, N. C. - - - Sept. 2 ..
Grist mill, improvement in. John W. Holley, - March 27 1802
Gun lock, improvement in. Edward West, Fayette co. Ken. July 6 ..
Grain, machine for thrashing. Joseph Pope - July 22 ..
Gauge auger, improvement in. Abel Stowell - Feb. 14 1803
Grain and grass, improvement in cutting. R. French and J. T. Hawkins, - - - - May 17 ..
Grinding painters' colours, printers' ink, &c. improvement in, John Cist - - - - Dec. 3 ..
Gallows, or suspenders, improvement in. S. Smith, New London, Conn. - - - - Oct. 24 1804
Gun powder, machine for granulating. E. J. Du Pont de Nemours, Nov 23 ..
Gun barrels, machine for boring. See *Boring.*
Grist mill, improvement in. J. Copes, George-town, Del. May 2 1805
Glazing and polishing linens. W. Smith, N. Y. - May 9 ..
Gun carriages, improvement in. S. Hawkins, N. Y. - Feb. 19 1806
Grinding, sawing, and rasping dye woods. John Matthews, Phil. Feb. 6 ..
Grist mill. Ezekiel Hall, Haverhill, Mass. Feb 22 1807
Gunners quadrant. C. Hammond, Concord, Middlesex co. Mass. May 5 ..
Galvanism for salivating, &c. William Phœbus, N. Y. June 9 ..
Green colour, mode of preparing. B. A. De Carrendeffez, N. Y. Oct. 12 ..
Gauge for saw mills. Anson Blake, Lincoln, Ken. Nov. 27 ..
Grinding bark, &c. machine for. O. Pease and A. Donalds, Norfolk, Conn. March 18 1808
Geometrical interest table. Gershom Cobb, Boston Sept. 7 ..
Grinding bark, machine for. Paul Pilsbury, Newbery, Mass. Sept. 22 ..
Grist mills, improvement in. Rupes W. Adams, Marlboro', Vert. Dec. 8 ..
Geer press. See *Cheese.*
Gin See *Hollands.*
Geometrical interest table. Gershom Cobb, Boston - April 24 1809
Geometrical writing plates. Samuel Ellis . Nov 25 ..
Grain, machine for cleaning, &c. Joel Morgan, Baltimore Feb. 20 1810
Grain, method of separating onion seed from. L. Ruggles and D. Tomlinson, Brookfield . . March 16 ..

Gas lamp. David Melville, Newport, R. I. . . May 1 1810
Gun barrels, machine for turning. Seth Youngs, Hartford, Conn. May 1 ..
Grecian chaise body. Phineas Dow, Boston - - May 15 ..
Grain and grass, cutting and gathering. J. Comfort, Buck's co. Penn. - - - - Feb. 26 1811
Gin, mode of making. Erastus V. Freeman, - April 10 ..
Granulating gun powder. Richard Crosbie, Newark, N. J. Feb. 17 1812
Grates. Charles Hunt, New York - - March 17 ..
Grinding corn in the cob. William Mayo, Henrico, Va. May 15 ..
Gas lamp. David Milville, Newport, R. I. - March 18 1813
Gimblet twisted screws. J. Broad, Salisbury, Conn. - June 25 ..
Gun powder. Thomas Ewell, Georgetown, D. C. . Dec. 7 ..
Gauge for a trip hammer. B. Richardson, Western Mass. May 17 1814
German flute. Wm. Schaffer, New York June 6 ..
Gun carriage pivot. Luke M. Laighton, Portsmouth, N. H. Nov 29 ..
Gun powder granulating. Joseph Wasley, Bern, N. Y. Feb. 21 1815
Guns and rifles. Frederick Oswan, Harper's Ferry, Va. Feb. 25 ..
Graphic plates for bank notes John Meer, Philadelphia July 1 ..
Grain, screen for cleaning. E. Tisdale, Windham, Conn. July 17 ..
Grain, machine for thrashing and cleaning. A. D. Leroy, N. Y. July 29 ..
Glass furnace, for making. J. Stranger and D. H. Miller, Phil. Aug. 16 ..
Gas light from stove coal. Z. Enters & W. Zigler, Geo. Town D. C. Sept. 28 ..
Grain, machine for hulling and grinding, &c. T. Ellicott, Penn. Feb. 16 1816
Gas making, carbonated hydrogen. B. Hugler, Philadelphia April 23 ..
Glass making. William Price, Pennsylvania March 4 ..
Gun powder, granulating. Charles Dalmas, Wilmington, Del. April 26 ..
Grain cleansing. Israel Honeywells, Hillsdale, N. Y. . April 27 ..
Greasing the axletrees of carriages. F. Brimler, New York Aug. 22 ..
Grammatical key. James Brown, jun. Newark, N. J. March 3 ..
Gurida depurative. John James Girand, Baltimore Sept. 9 1817
Gate, rising and faucet. J. Brainard, Oneido co. N. Y. Oct. 4 ..
Gun barrels, making. A. Waters, Milbury, Mass. Oct. 25 ..
Gilding on leather, &c. Andrew Allen, New York - Dec. 26 ..
Grammatical mirror. John Brown, jun. Springfield, N. Y. March 17 1818
Grain, machine for cleaning, &c. A. Fettrow, York, Penn. May 28 ..
Gun rifle, &c. to discharge 7 times. Artemas Wheeler, Roxbury, near Boston - - - - June 16 ..
Gun powder, granulating. Daniel Rogers, Newburg, N. Y. Aug. 6 ..
Gill nets, catching fish. James Drummond N. Y. . Aug. 27 ..
Gun barrels. Asa Waters, Milbury, Mass. - - Dec. 21 ..
Gun and rifle barrels improvement in. Artemas Wheeler, Mass. Feb. 19 1819
Grain, machine for hulling. Benjamin Maltby and Maltby Fowler, New Haven, Conn. - - - Feb. 26 ..
Gun or rifle, improvement in the. Obadiah Stith, Quanelsville, Brunswick, Va. - - - March 16 ..
Galley for ships, or fire hearth range. George Youle, N. Y. March 19 ..
Glass strings for pianos. Richard Bury, Albany, N. Y. Aug. 21 ..
Granulating gun powder. Gardiner Fulton, Philadelphia Aug. 21 ..
Gun stocks, machine for turning. Thomas Blanchard, Milbury Mass. - - - - Sept 6 ..

H.

Hydraulics, improvement in. Joshua Hatheway, Vert. Oct. 29 1794
Harbours. See *Docks*.
Hemp, &c. breaking and swingling of. Samuel Mulliken, Phil. March 11 1791
Hemp and flax, &c. spinning of. George Parkinson, Phil. March 17 .
Hemp and flax breaking. Samuel Mulliken, Phil. - Jan. 15 1795
Harbours. See *Docks*.
Hats making. James Long - - - Aug. 5 1799
Hoops of iron, improvement in straightening. B. Seymour June 26 1797
Hides and skins, machine for splitting. T. O. Harrison May 19 1800
Hydraulic machine for raising water. Bar. Langdon, St. Alban's, Vert. - - - - Feb. 20 1801

Hydraulic engine. John Strong - - March 24 1801
Hemp and flax, mode of breaking. Hezekiah Betts - May 3 1802
Hulling rice, machine for. Christopher Hoxie, Hudson, N. Y. Jan. 7 1803
Horizontal wind mill. John Baptiste Avelthe - March 16 ..
House fan, improved. Edward Marquam - March 28 ..
Heating and boiling. See *Water.*
Hinges, machine for making. David Morse - - June 10 ..
Hats, improvement in the mode of manufacturing. E. Corning, jun. Hartford, Conn. - - - June 13 ..
Hats. See *Seals' Fur.*
Horizontal draft windmill. Samuel Goodwin - - Oct. 31 ..
Hydro machanical press. John Beverley - - Dec. 26 ..
Hemp and flax. See *Breaking.*
Hone. See *Metallic Grinder.*
Horses ears, mode of improving. Seth Janes - Dec. 31 1804
Hone. See *Metallic.*
Hackling. See *Tow.*
Hats, machine for making bats or frames for wool. R. Gookins, New Hampshire, Mass. - - - Jan. 24 1806
Hoisting machine. Wm. Purden, Baltimore - - March 19 ..
Hemp and flax machine. R. Button, Cassenovia, N. Y. Feb. 11 1807
Hats. See *Carding.*
Heating rooms, mode of. Allan Pollock, Boston - - April 24 ..
Heating water for steam by the rays of the sun. Mat. Longwell, Gettysburg, Penn. - - - July 11 ..
Harrow, improvement in. Seth Vinton, Willington, Conn. Nov. 18 ..
Hoop and sheet iron. J. H. Pierson, Rockland - Dec. 24 ..
Hemp machine for breaking and swingling. T. Cohoon, Washington - - - - April 13 1808
Hats, cloths, &c. mode of manufacturing from the fleece, without bowing. R. Pitkin, East Hartford, Conn. - April 23 ..
Hydrant for drawing water from aquæducts. D. Burt, Schenectady, N. Y. - - - - June 22 ..
Heating liquids. Samuel Bolton, Philadelphia - - Jan. 16 1809
Hollands gin, mode of making. A. Bouchrie, Philadelphia Jan. 31 ..
Horse boat. Moses Craft, Troy, N. Y. - - Feb. 14 ..
Hand saw. See *Saw.*
Harness. Benjamin Mirick, Rutland co. N. Y. - April 21 ..
Hubbs, machine for dividing and boring. J. B. Cleveland, Bergen, New Jersey - - - - June 7 ..
Hemp and flax spinning machine. N. Foster, Flamsbury, Ken. June 28 ..
Hats mode of manufacturing. Henry Lainhart, jun. Baltimore July 6 ..
Hot pressing paper. Francis Bailey, Philadelphia - July 31 ..
Hydraulic ram. Jos. Cerneau and S. J. Hallet, N. Y. Aug 3 ..
Horizontal mill. Israel Kelsey, Hartford, Conn. - Aug. 25 ..
Horse shoes, machine for making. S. Decatur and W. Tatham, Washington - - - - - Oct. 11 ..
Hides, improvement in Bent's machine for splitting. W. Brown, Philadelphia - - - - - Nov. 20 ..
Heat to fluids, mode of application. S Applegate, T. Howard, and P. H. Wharton, Philadelphia - - Nov. 22 ..
Hemp break. William Mason, Washington co. Ohio Dec 28 ..
Hopper blower. T. S. Barnum, Sharon, Conn. - Jan. 18 1810
Hair, method of extracting from peltry. E. Cutter, Walpole, N. H. Feb. 12 ..
Hats planking. John Gregg, Green co. Penn. - March 14 ..
Hoops, machine for shaving. David Shiver, Petersburg, Penn. March 17 ..
Horse mill. Ephraim Brown, Boston, Mass. - April 10 ..
Hides, machine for shaving and splitting. N. P. Whiting, Providence, R I. - - - - - April 25 ..
Hats, mode of manufacturing military. S. Hoskin, Catskill, N. Y. April 30 ..
Hinges, mode of casting. G. A. Rogers, Newburyport, Mass. July 3 ..
Harness, mode of making, for saddlery. Ben. Foster, Dan. Washburn, N. Rockwell, and J. O. Walker, Castletown, Va. Aug. 16 ..

Hessian fly, mode of destroying. W. Armistead, Prince William co. Va. - - - - Nov. 13 1810
Hats, manufacturing. S. Sibballs, jun. Tyringham, Mass. Dec. 26 ..
Horses, training and breaking. Townsend Cock, N. York March 1 1811
Hats, planking and setting. Israel Swan, Haverhill, N. H. March 7 ..
Hats, steaming, &c. J. Sizer, New London, Conn. - Nov 6 ..
Hats of paper. Joseph Ford and John White, Boston Nov 25 ..
Hydro pneumatic engine. R Crosbie, Newark, N. J. - Jan. 6 1812
Hats. Frederick Messer, Guildhall, Vermont - - Jan. 23 ..
Horse hoofs, &c. combs made from. E. Morris, Canviss, Southington, Conn. - - - - May 6 ..
Hatters, machine for boiling for. H. S. Holliday and E. G. Griffin, Lyme, Conn. - - June 6 ..
Hides, machine for breaking, &c. N. Kirk, and S. Clark, St. Clairsville, Ohio - - - - July 18 ..
Hides and skins breaking, &c. T. E. Barker, and S. S. Fordham, Hudson, New York - - - - Oct. 15 ..
Hinge eliptical. M. and R. Reeve, Burlington, N. J. - Oct. 31 ..
Hulling machine. S. Hought, Philadelphia - - Nov. 16 ..
Hide, mill for softening, &c. W. Edwards, Northampton, Mass. Dec. 30 ..
Hair. See *Cloths*.
Hats, mould for forming, &c. J. Werely, Albany, N. York Oct 14 ..
Hair, machine for spinning. W. Shotwell, and A. Kinder, N. Y. Nov. 4 ..
Hair, machine for carding, &c. Do. Do. Nov 4 ..
Hopper, filler for flour. A. Hershe, Lancaster, Penn. - Jan. 15 1814
Hats, making felt. J. Carleton, Salem, N. H. Jan. 21. ..
House warmer, &c. R. Annesley, Philadelphia - - April 27 ..
Hinges, casting iron. Cyrus Alger, Boston - - May 18 ..
Horn, splitting and shearing. John Pulsifer, Newbury, Mass. May 24 ..
Hold fast for buttons. Ira Ives, New Haven, Conn. . June 13 ..
Horse boats, machine for. David Dunham, N. Y. - June 28 ..
Harness buckles, cutting. James Carman, Hudson, N. Y. Oct. 12 ..
Heater and condencer for distilling. Thomas Shurley, Madison co. Va. - - - - Nov. 18 ..
Hedles metalic, for weaving. W. James, and D. Bolles, Ashford, Conn. - - - - - April 26 1815
Hydrastatic paradox to move, machine. Cad. D. Colden, N. Y. May 19 ..
Hats, manufacturing. Jehiel and John Bryan, Saratoga, N. Y. Aug. 26 ..
Heat, space applied to steam engine. E. Burrall, Canaan, Conn. Jan. 31 1816
Hats, making cemented. Nathan Weston, Reading, Mass. May 24 ..
Hats, blocking. David Beard, Guilford, N. C. - May 28 ..
Hatters' plank kettle. Schuyler Fisher, Herkimer co. N. Y. July 15 ..
Hats, improvement in. William Goodrich, Philadelphia Aug. 20 ..
Horse mill. William Cornwell, Accomak, Va. - Dec. 14 ..
Hydraulic machine. Charles Darmand, Georgetown, D. C. Aug. 7 1817
Hats, water proof stiffening. William Ruckle, Baltimore - Nov. 28 ..
Horn manufacturing for combs. M. P. Smith, Poughkeepsie, N. Y. Jan. 28 1818
Hulling grain machine for Benjamin Maltby, and Maltby Fowler, New Haven, Conn. - - - Feb. 28 ..
Hulling grain, machine for. James Jones, Willington, N. H. Feb. 25 ..
Horse rake. Pierson Reading, Trenton, N. J. - - Aug. 1 ..
Horse wheel to propel boats. R. Bowne and J. Murphey, N. Y. Nov. 18 ..
Hydraulic machine. Joseph James Lyngamore, Md. . Nov. 18 ..
Heat retainer and imparter. J. K. Mitchell, Philadelphia Nov. 19 ..
Hides, machine for breaking. Wm. M. D. Hasbrouch, and Jacob Dufenback, Bloomsbury, Penn. - - Feb. 8 1819
Hats, making. Silas Mason, Norfolk, Mass. - - Feb. 20 ..
Hoe, improvement in the. E. Kimball, Fitchbury, Mass. April 3 ..
Hydraulic machine. Jeremiah Black, Northumberland co. Penn. April 23 ..
Hat rounder and guage S. Jones, Bridgeport, Fayette co. Penn. June 2 ..
Horse boats, improvement in the. B. and J. C. Langdon, Troy, N. Y. - - - June 5

Hot pressing, heating plates for. Moses A. Quigley, Washington co. Md. - - - - - June 15 1819
Heights and distances, machine for measuring. Benjamin Wilmer, Baltimore - - - - Aug. 20 ..
Hats water proof, stiffening for. J. Heinrie Tilge, Washington Sept. 23 ..
Horse wheel. Moses Isaacs, New York - - Nov. 17 ..
Hanging Bells. Anthony Lynar, New York, - Dec. 24 ..
Hollowing iron for fire, *etc* See *Fire, mode of hollowing.*
Hats elastic, water proof. Arnold Buffum, and J. Kelly, Medford, Massachussets, - - - - Feb. 17 1820
Hoe, improvement in the common. P. H. Merrill, Hinsdle, N. H. April 6 ..

I.

Iron, improvement in casting. William Hancock . Feb. 26 1799
Impellent pump. S. Thayer, Braintree, Mass. . June 9 1801
Iron, method of rolling out for nails. Jesse Reed, . July 15 1802
Insubmersible boat. See *Boat.*
Inclined plane, statical wheel. John William, Deerfield, Mass. March 24 1804
Iron Screws. See *Moulds* for casting.
Iron, mode of manufacturing. James Rutland, Phil. Nov. 12 1807
Impelling boats, &c. Benjamin Taylor, New York April 25 1808
Illuminator for lighting stair cases. J. H. Ross, Baltimore, Md. June 24 ..
Indigo, a substitute for. Samuel De Riemer, Poughkeepsie, N. Y. May 15 ..
Iron, machine for moulding and rolling. Joseph White, Phil. March 14 1810
Ink stands of stone. A. H. Quincy, Boston . . Sept. 3 1811
Iron, mode of making bar from scraps. B. King, Washington, D. C. Nov. 15 1811
Icthy occalla, or fish glues. D. Waldron, New York . March 4 1812
Iron oar manufacturing into paints. R. Nicholson, Bairdstown, Kentucky . . . . June 23 1812
Interest table, circular. Joseph Jelleff, Butternuts, N. Y. Sept. 8 ..
Ice breaking machine. J. J. Williams, George Town, D. C. March 2 1813
Ink stands. Oliver Barker, Hartford, Conn. . . May 13 1814
Iron, composition for softening. A. Scott, jun. and A. Seldon, Winchester, N. H. . . . . Nov. 8 ..
Iron back log. Charles Harris, Boston . . . . May 15 1815
Interest table, improvement on Jelleffs. Gilbert D. Lowe, Hampfield, Penn. . . . . Aug. 12 ..
Imprinting on hard substances. John Edwards, N. Y. . Aug. 22 1816
Inclined horse wheel. J. B. Robinson, Cincinnati, Ohio . Oct 14 ..
Iron railing, machine for making holes in. B. King, Washington, D. C. . . . . May 29 1819
Iron, converting into steel partially. Eben. Jenks, Colebrook, Connecticut . . . . . Jan. 28 1818
Iron plates, &c. manufacturing. E. J. Ellicot, Baltimore . May 28 ..
Ink standish, construction of. A. Hayward, Easton, Mass. Nov. 23 ..
Inclined horse wheel. J. Palmer, Cincinnati, Ohio . Dec. 29 ..

J.

Jaundice bitters. Jesse Wheaton, Dedham, Mass. . Jan. 17 1801
Junk old. See *Oakum.*
Joining and planing machine. J. S. Mott, Alburgh, St. Albans, Vermont . . . . . March 8 1806
Jointer and gauge. J. Wadsworth, Milton, Mass. . Feb. 10 1810
Jostick, a composition instead of. Frederick Eckstein, and J. M'Ilhenney, Phil. . . . . Oct. 12 1814

K.

Keels. See *Crooked Keels.*
Keels of vessels, improvement in construction. Gilbert Livingston, Duchess co. N. Y. . . . . Oct. 22 1803
Kilns for drying grain. William Pool, Wilmington, Del. . Dec. 20 1805
Kilns for drying grain. J. Abraham, Middlesex, N. J. . Dec. 20 ..
Knapsacks, military. J. P. Lherbette, Washington, D. C. . Oct. 7 1808

Kirb. See *Case.*
Kiln, drying corn and malt. John Hughson, Clinton co. N. Y. July 18 1811
Keel, swinging. Josiah Beall, Alexandria . . Jan. 15 1315
Kitchen stove. John Spencer, Albany, N. Y. . . Feb. 8 1813
Kitchen, moveable. George Youle, New York . . July 1 1814
Knaping cloth D. Merrion and H. Kellog, Hudson, N. Y. - Oct. 28 1811
Knaping cloth. T. S. Barnum and E. Smith, Litchfield, Conn. April 4 ..
Knapping cloth. W. Duncan, and J. Davidson, Acworth, N. H. May 27 ..
Knitting stocking and stockingnette. A. Porter, I. Mead, and J. Stedwell, Queensbury, N. Y. - - July 31 1815
Kilns for manufacturing earthen ware. J. Hassell, Elizabethtown, New Jersey - - - - Oct. 21 ..
Knapping machine. John Taylor, Waltham, Mass. - Oct. 28 ..
Keel, swinging false. Philander Hall - - April 2 ..
Kiln for burning lime. T. Power, Hudson, N. Y. - - Jan. 7 ..
Kiln for burning lime. G. Harper, Jenkertown, Penn. Jan. 22 ..
Kiln for burning lime. J. Swope, Lancaster, Penn. . . March. 14 ..
Knapping woollen cloth Bishop N. Parsons, New York April 16 ..
Kneading dough, machine for. S. Dixon, Prince Geo. co. Md. Feb. 28 1818
Kettles for boiling salt. J. Kindall, Fayette co. Penn. March 18 ..
Kettles setting. George Whitfield, Robinson, Mass. July 17 ..

L.

Leather tanning. James Davis, Massachusetts - April 14 1797
Liquor. See *Distilling.*
Lamp, a tallow. J. Love - - - June 11 1798
Looms, improvement in. David Greive - - - June 8 1797
Lathe, improvement in blocking. E. Whiting, Worcester, Mass. April 1 1802
Light obtained from fuel, new mode. B. Henefrey, - April 16 1802
Lantern, improvement in. J. Standiford, jun. and A. D. Allen May 10 1804
Lime kiln, improvement in. Thomas Power - - July 12 ..
Leeches, bleeding and breeding with. John Kunitz, Phil. May 7 1805
Lock, balance pendulum. S. Godwin, and R. Gaines, Baltimore, and Georgetown - - - - - Jan. 22 1806
Loom for weaving chip. P. Bennet, Rochester, Mass. - Feb. 8 ..
Lock, balance pendulum. R. Ganes, Geo. Town D. C. - March 17 ..
Lime. See *Calcareous.*
Lasts for boots and shoes. W. Young, Philadelphia - May 20 1807
Leather mode of preparing for suspenders. O. Webb, N. Y. Oct. 14 ..
Lever for turning wheels, rowing boats, &c. R. Hopkins, Hopkinton, St. Lawrence co. N. Y. - - March 25 1808
Life buoy, or seaman's friend. W. Flower, Philadelphia May 14 ..
Lighting the binnacles of ships. W. Lewis, Boston June 24 ..
Leather, machine for shaving and splitting. Martin Tullar, Royalton, Va. - - - - July 29 ..
Lightning rods. Elisha Calender, Boston - - Oct. 3 ..
Looms for weaving. C. Cooper, Lebannon co. Penn. Nov. 4 ..
Lye, mode of cleansing and melting pot ash. Jonathan Jones, Fabias, N. Y. . . . . Feb. 11 1809
Lathe, uniform turning. A. Hagget, Middlesex, Mass. June 10 ..
Lever balance, spring catch. Levi Kendall, N. York - May 8 ..
Lathe, mode of securing a button in. George W. Robinson, Providence, R. I. - - - - June 27 ..
Lathe turning. W. Ross, Chester co. Penn. - July 10 ..
Leather machine for striping. D. Ridgway - Oct. 26 ..
Loom for weaving girt and cloth. R. Lloyd, Phil. - Feb. 8 1810
Lamps and liquid to be burned J. Hawkins, Baltimore April 21 ..
Leather, machine for stamping and staining. R. Robinson, Newburyport, Mass. - - - March 16 ..
Lantern, a reflecting and magnifying. W. Lewis, Boston June 1 ..
Loom. Walter Janes, Ashford, Conn. - - Sept. 1 ..
Loom. S. Blydenburgh, West Brookfield, Mass. - Sept. 12 ..
Loom. P. Clinton Curtis, Paris, Oneida, N. York - Nov. 17 ..

Loom, water. Thomas Mussey, Philadelphia - March 4 1811
Lee board. J. Swain, H. Swain, Joshua Swain, Cape May, N. J. April 10 ..
Lever purchase, for propelling, &c. Shubail Kinball, Rhinebeck, New York - - - - April 24 ..
Lime kiln perpetual. W. Gorsuch, Baltimore - - Aug. 17 ..
Looms. N. Perry, Boston - - - Sep. 25 ..
Loom crank. E. Cutter, Walpole, N. H. - - Sept. 27 ..
Loom. Richard C. Rogers, Maine, Mass. - - Nov. 29 ..
Loom. Richard Crosbie, Newark, N. J. - - - Jan. 6 1812
Loom, hand and water. John Thorp, Providence, R. I. March 28 ..
Loom, hand and water. Asa Campbell, Kingston, Penn. March 28 ..
Loom, water. Silas Shepard, Philadelphia - - April 27 ..
Linen spinner. S. Baldwin and E. Town, Vermont - May 6 ..
Liquids, machine for heating. Roswell Valentine, Canaan, N. Y. June 13 ..
Loom. Richard C. Rogers, District of Maine - - June 23 ..
Leather, plane for shaving. F. Woodward, New Lisbon, N. Y. July 27 ..
Looms. John Phelps Manlius, New York - - Aug. 27 ..
Looms. C. Cooper, and G. Shaake, Lebannon, Penn. - Aug. 28 ..
Looms. John Hevin, Montgomery, Va. - - Oct. 16 ..
Leather compresing by a roller. W. Edwards, Northampton, Mass. Oct. 19 ..
Lamps. James Mallory, New York - - - Nov. 20 ..
Linen spinner. A. Webster, Green county, N. York - Dec. 21 ..
Lamp for nurses. William Howe, Boston - - Dec. 31 ..
Loom, domestic and manufactory. W. Jones, Ashford, Conn. March 20 ..
Locks for banks. Jacob Perkins, Newburyport, Mass. March 23 ..
Leather, machine for splitting, &c. Samuel Parker, Bellerica, Mass. - - - - April 5 ..
Loom. S. Briggs, Canaan, Conn. - - May 27 ..
Loom. Alfred Ware, jun. Franklin, Mass. - - June 18 ..
Loom. T. Robinson Williams, Newport, R. I. - July 3 ..
Loom. E. Robinson, Augusta, Mass. - - - July 24 ..
Locks, construction of. W. Pye, New York - - Aug 5 ..
Lamp, with double reflector. W. and L. Foster, Boston Aug. 20 ..
Loom revolving. J. Hess, Hempfield, Penn. - - Oct 2 ..
Leather, water proof. J. Board, New York - - Nov. 4 ..
Loom. Robert Sugden, Boston - - Nov. 2 ..
Loom. J. M. Morel, Guiramond, Baltimore - - Jan. 7 1814
Loom for warping. C. Whitney, Dedham, Mass. - Feb. 1 ..
Lee's New London billious pills. Samuel H. P. Lee, N. London, Conn. - - - - Feb. 8 ..
Looms. John Heavin, Montgomery, Va. - - Feb. 18 ..
Looms. D. Briggs, Canaan, Conn. - - Feb. 19 ..
Loom water. B. Brown. Albermarle, Va. - March 21 ..
Looms. J. Coulter and St. Gano, Berkley, Va. - April 18 ..
Looms. Jacob Spinkle, Wythe C. H. Va. - - April 27 ..
Lamps. Edward Clarke, Philadelphia - - April 27 ..
Looms. Thomas Siddall, Bristol, Pennsylvania - July 9 ..
Loom, family. C. Hathaway, Walton, New York - Oct. 11 ..
Loom. W. Wright, Brooklin, N. H. - - Oct. 12 ..
Looms. Seth Craig, Philadelphia - - - Oct. 18 ..
Loom, stocking. J. Bazen, jun. Canton, Mass. - Oct. 28 ..
Looms, temples for. B. Rogers, Beaver Creek, Ohio - Nov. 24 ..
Looms. S. Browson, Kent, Connecticut - - Nov. 25 ..
Lathe wheel. B. Hoadly, N. Haven, Conn. - - Dec. 16 ..
Lathe for polishing buttons, &c. L. Meriam, N. Haven, Conn. Jan. 4 1815
Loom for the warp of suspenders. W. Squire, New York Jan. 17 ..
Loom, water or steam. S. Blydenburgh and H. Kealey, Worcester, Mass. - - - - - Feb. 20 ..
Looms. F. C. Lovell, and P. T. Jackson, Boston - Feb. 21 ..
Looms. J. Jellefs, Butternuts, New York - - May 24 ..
Looms. C. Cooper and G. Shalk, Lebannon, Penn. - May 31 ..
Ladder, conflagration. Bennet Lies, New York - June 20 ..
Lexodromic pully. J. S. Donlevy, New York - Sept. 21 ..

Lime, ardent spirits obtained from. James Hall, Virginia Nov. 22 1815
Lotteries. Joseph Vanini, Washington, D. C. - Dec. 4 ..
Loom, water. P. C. Curtis, Paris, N. Y. - - May 28 1816
Loom. Robert Jackson, Middleborough, Penn. - July 23 ..
Loom, power. S. Shepard, and J. Thorp, Taunton, Mass. July 25 ..
Loom. Samuel Chapman, Otsego, N. Y. - - Aug 24 ..
Loom, water. Thomas Mussey, N. London, Conn. - June 10 1817
Last, right and left. William Young, Baltimore, - June 10 ..
Loom. Benjamin Cummings, Townsend, Mass. . Oct. 3 ..
Letters, projecting. Lewis Child, New York, - - Oct. 4 ..
Lint loom. Francis Hall, Charleston, Mass. - - Nov 28 ..
Laths &c. machine for splitting. Daniel Wright, Franklin, N. Y. Jan. 15 1818
Lamps, improvement in. Winslow Lewis, Boston - Jan. 23 ..
Locks and bolts for doors. William Pye, New York - April 28 ..
Lock, called the union lock. William Pye, New York - April 28 ..
Leather tubes, making. A. L. Pennock and James Sellers, Phil. July 6 ..
Leather bags for mails, &c. A. L. Pennock and James Sellers, Phil. July 6 ..
Locks, securing. G. Whitfield Robinson, Attleborough, Mass. July 17 ..
Lathes for turning gun barrels. Daniel Dana, and A. Olney, Canton, Mass. - - - - Aug. 24 ..
Loom, improvement in the. Edward Warren, New York Aug. 27 ..
Leather, varnishing and japaning. J. Finegan, New Jersey Oct. 8 ..
Lamp, Argand's, improvement on. David Milville, Newport, R. I. Nov. 19 ..
Lever, crane. E. Smith, Paris, Oneido co. New York - Dec. 31 ..
Loom, improvement in the. L. Forester, Fairfield, Conn. May 15 1819
Lathe, of the power loom. John Whitehead, Providence, R. I. Aug. 30 ..
Lamp, candle. Asa Taylor, Philadelphia - - Oct. 9 ..
Locks for canals. Josiah White, Philadelphia - Oct. 19 ..
Lamp, pneumatic. Ezekiel F. Smith, Lenox, Mass. - Nov. 8 ..

M.

Marble and stone, polishing of. See *Stone*, &c.
Mills tide, improved method of working. J. Dickerson, Morris County, New Jersey, - - - July 30 1791
Mill wheels, horizontal hollow. J. Macomb, Princetown, N. J. Aug. 26 ..
Mill, improvement on Dr. Barker's. J. Rumsey, Berkley county, Virginia - - - - - Aug. 26 ..
Mills, conveying water to operate on. James Rumsey, Berkley co. Virginia - - - - - Aug. 26 ..
Machine to work in a current of water or other fluid. John Clark, Virginia - - - - Dec. 31 1793
Mill stones. See *Stones*.
Mortar, manufacturing of for flooring houses, &c. Richard Robotham, Vermont - - - April 12 1794
Machine for raising water, *ect.* Wm. Faris - May 17 1799
Machine for heaving down vessels, raising weights, *etc.* Steven Colver - - - - Dec. 14 1798
Malt mashing, a machine for. Wm. Ellis - - June 26 1799
Marble and other stones, improvement in sawing and polishing. Joseph F. Mangin - - - July 2 1796
Marble, improvement in cutting and polishing. Joseph F. Mangin, - - - Feb. 16 1797
Mills stones burr, improvement in. Oliver Evans - May 23 1796
Mills, rollers for slitting and other mills, (rolling iron.) Ben. Seymour - - - June 26 1797
Mills saw, improvement in. Henry Dulheuer, - Aug. 18 ..
Mills, improvement in. J. W. Curtis, - Aug. 24 ..
Mill, a flax and hemp. B. Tyler, - - Feb. 26 1799
Mill, a double centered, for wind or water. B. Dearbon, April 30 ..
Mill, saw. Thomas Payne, - - Dec. 2 ..
Mills, improvement in. Hairland Chase, - - Dec. 16 ..
Metal amulets. Edward West, - - May 19 1800
Musical instruments, improvement in. J. J. Hawkins, - Oct. 24 ..

Mill for grinding painters' colours, *etc.* Caleb Green, East Greenwich, Rhode Island - - - July 23 1801
Machine for separating straw from grain. See *Straw, &c.*
Meal, improvement for cooling and conveying up, &c. Gurdon F. Saltonstall, Fayetteville, N. C. - - Aug. 21 ..
Mechanical powers for the use of wind mills, *etc.* See *Windmills.*
Moveable suspended beam and scales. See *Beam* and *Scales, &c.*
Machine for ruling paper. See *Ruling Paper.*
Machine for rolling iron round. See *Rolling Iron, &c.*
Music, new plan for printing. Andrew Law, - May 12 1802
Mill wheels, improvement in the construction. James Cowan, Dec. 14 ..
Marble. See *Machine for sawing stone, &c.*
Marle, mode of manufacturing into lime. Jedediah Peasley, Deweysburg, Virginia, - - - Feb. 1 1803
Marble, method of preparing for painting. Archibald Robertson, New York, - - - - March 5 1804
Metallic grinder or hone. Christian Veltenair - - Aug. 10 ..
Mill. See *Grist.*
Metallic hone. John Houstan, Williamsburg, Virginia May 4 1805
Moulds for casting iron screws, method of making. Eben Lester, Herkimer town, New York - - - May 10 ..
Mills and machinery, improvement in. Lewis Valcourt, Ken. June 25 ..
Mills for cattle, power. La Paype, aine, Baltimore, Md. - Nov. 4 ..
Mud, machine for raising. John Eveleth - - Feb. 21 1806
Moulds, method of making, for casting trundle heads of metal. Eben. Lester, Little Falls, New York - Feb. 12 1807
Main springs for carriages. Jonathan Mix, New Haven, Conn. April 18 ..
Mills, improvement in. Christian Hamaker, Lancaster - May 21 ..
Mortising machine. S. Glover and D. Parmelle, Newton, Conn. June 8 ..
Moulds. See *Copper.*
M'Comb's waterwheel. See *Reacting.*
Mills, improvement in. Samuel Mans and J. Black, Pennsylvania Feb. 17 1809
Mills, improvement in. Ephraim Rew, Canandiagua, N. Y. February 22 ..
Mad dog, medicine to cure the bite of. Eliza Stoy, Executor of William Stoy, Lebannon, Pennsylvania June 9 ..
Mill for grinding painters' colours. J. J. Wells, Hartford, Conn. June 13 ..
Mowing machine, for rivers, &c William Schultz, Baltimore June 16 ..
Morocco leather, machine for polishing. Jacob Perkins, Phil. June 26 ..
Mud, machine for raising. John Newman, Providence, R. I. June 27 ..
Magic lotion. See *Barbal, &c.*
Mineral waters, mode of imitating. Joseph Hawkins, Baltimore Sept. 7 ..
Metals, mode of melting. Joseph Walworth, New York Oct. 17 ..
Marine time keeper. Isaac Gill, Charleston, S. C. Jan. 15 1810
Measuring grain, &c. P. H. Schenck, N. Y. Feb. 15 ..
Mortising machine. H. Parmele, Killingworth, Conn. Feb. 15 ..
Mortising machine, Sylvanus Baldwin, Montpelier, Ver. March 17 ..
Mortar, machine for making. Daniel Hunt, Stamford, Conn. March 22 ..
Mill, screw grist. Joseph L Miller, Brookfield, N. Y. - March 28 ..
Marble, machine for cutting and chisselling, &c. Anson Clark, West Stockbridge, Mass. April 10 ..
Mills, mode of constructing. J. Frisbie, Penn. June 30 ..
Moulds for casting boxes for carriages. Samuel Smith, *2nd.* Amherst, Mass. July 6 ..
Mills. J. Goulding, Leicester, Mass. March 1 1811
Mill stones, machine for dressing. C. Woolverton, and Benjamin Ridgeway, jun. Morrisville, Penn. May 25 ..
Marble, machine for sawing and polishing. Luther Bisssel, Otsego, New York, June 7 ..
Medicine cases. Allen Harrington, Otsego, N. Y. July 16 ..
Mill stones. Wm. Miller, Lampter, Penn. Aug. 15 ..
Metallic boxes for shieves. L. Larrabee, Nantucket, Mass. Nov. 4 ..
Mill, regulated. Joseph Qunby, Wilmington, N. C. Feb. 3 1812
Musical types. Ure K. Hill, New York Feb. 7 ..

Mill, wind and water. Moses Pennock, Kennets square, Penn. Feb. 18 1812
Mill, machine for working. J. Deveneur De Lacy, New York March 28 ..
Magnesia preparing. Wm. Dunn, Boston, . . April 1 ..
Mitres, machine for cutting. Z. Kelly, Easton, Md. . April 22 ..
Mills moved by weights. J. Grannis, Cheshire, Conn. . May 12 ..
Moffat's machine for boiling salt. Zina Phinney, Cario, New York, ... June 18 ..
Malting and kiln drying. H. Parsons, Colebrook, N. H. . July 9 .
Magnetic cylinders. S. Browning, Françonia, N. H. . Oct. 13 ..
Mill wheel. R. Lathrope, West Springfield, Mass. - Nov. 12 ..
Mowing machine. P. Gaillard, Lancaster, Penn. . . Dec. 4 ..
Magnesia preparing. Wm. Dunn, Boston, . . April 8 1813
Mill stones for taking the glaze of. J. Derby, Conn. . June 10 ..
Mill grist. A. Sawyer, Chester, Ver. . . July 20 ..
Mill for grinding and pounding. Alex. D. Moore, New Haven Aug 7 ..
Mustard, flour of. S. Hopkins, Rathaway, N. J. . . Aug. 19 ..
Mill, gudgeon. M. Withers, Strasburg, Penn. . . Aug. 24 ..
Mills. E. Bryant, New London, Conn. . . . Feb. 8 1814
Mowing machine. P. Baker, Long Island, N. Y. . . Feb 19 ..
Match lights and boxes. R. Allison, and N. S. Allison, Burlington, N. J. . March 26 ..
Mockasans and socks. W. Bolton, Northampton, Mass. . Oct. 21 ..
Mill stones, machine for raising. Thos. Reynolds, West Fallowfield, Penn. . . . . Nov. 8 ..
Magnetic cylinder. S. Browning, Franconia, N. H. . . Nov. 25 ..
Mill, tide. F. Rittal, Lincoln, Mass. . . . Jan. 28 ..
Mockasans, hat trimmings for. James Jackson, Burlington, N. J. April 1 ..
Machinery for regulating power. Joseph Kells, New York April 1 ..
Mills, water power for working. J. W. Newbury, Luzerne, Penn. June 28 ..
Mineral fountain, family. G. E. Pendergast, Phil. . Aug. 18 ..
Mould for making stone pots. Edward Boston, Gloucester, New Jersey . . . . . Oct. 14 ..
Mineral waters, manufacturing. B. Marshall, Albany, N. Y. Dec. 5 ..
Mill for grinding grain, &c. Ormsby, and T. Cohoon, Washington, District of Columbia . . . . Jan. 4 1816
Maintaining power on board of ship. David Pearson, Newburyport, Massachusetts . . . . Jan. 24 ..
Mills, improvement in saw. Samuel Brewster, Middlesex, N. J. March 15 ..
Mill tub, winnowing. Moses Elliot, Concord, N. H. . May 18 ..
Mill, tide. Josiah Cleveland, St. Marys, Md. . Oct. 22 ..
Mill, horse. Webb Hart, Drummondtown, Vir. . . Jan. 22 1817
Mineral waters, making. James S. Ewing, Phil. . Feb. 10 ..
Mustard, flour of. Samuel Hopkins, Philadelphia . May 31 ..
Mills, mk and gudgeon for. John Andrews, Dinwiddie, co. Va. Aug. 11 ..
Mortising machine. Nathan Mead, and Jonathan Butler, Walpole, New Hampshire - - - Nov. 3 ..
Morocco, machine for dyeing, &c. Moses Hall, Charleston, Massachusetts - - - Dec. 31 ..
Metallic portable bedsteads. Joseph Homer, New York - Jan. 28 1818
Motion, machine for conveying. William Simpson, Wilkes co. Georgia - - - Feb. 19 ..
Mills, iron and steel. Increase Wilson, New London, Conn. March 6 ..
Mud machine. Samuel Davis, Baltimore, - March 28 ..
Musket barrels, machine for turning. Sylvester Nash, Harpersferry - - - - April 11 ..
Magnesia liquid. John Cullen, Phil. - - May 4 ..
Music arranged to books. M. Elliot, Boscawen, Hillsboro', N. H. June 9 ..
Mills for coffee, bark, seed, &c. Burrows Smith, Cincinnati, Ohio June 9 ..
Mill for grinding coffee, &c. Jonathan Sizer, for Z. Waterhouse, New London, Connecticut - - June 12 ..
Measuring rod, improvement in. Daniel Stansbury, Laurel Hill, New Jersey - - - - Oct. 26 ..
Mill stones, casting faces for. G Manter, Londonderry, N. H. Dec. 8 ..

Motion, producing an alternate lateral. N. Moody, Kennebec, Mass. Feb 19 1819
Mud machine. See *Clearing.*
Mineral waters, apparatus for making. S. Fahnestock, Lancaster, Pennsylvania - - - April 23 ..
Motion, mode of converting. A. W. Foster and J. Hugus, Hempfield, Pennsylvania - - - April 26 ..
Morocco leather, machine for dyeing, &c. L. Hedge, Windsor, Ver. July 22 ..
Music, improvement in teaching. George Gieb, New York August 30 ..
Musical stringed instruments, producing the swell in. C. Pommer, Philadelphia - - - August 30 ..

N.

Nails, machine for making. S. Briggs, jun. and Son, Phil. Aug. 2 1791
Nails, manufacturing. T. Perkins, Pennsylvania - Feb. 7 1794
Nails cut, manufacturing. J. G. Peerson, New York March 22 ..
Nails, manufacturing. Jacob Perkins, Boston - Jan. 16 1795
Nails, improvement in manufacturing. J. Byington, Conn. Jan. 15 1796
Nails, machine for making. Peter Lachaine, Maryland May 4 ..
Nautical ventulators. See *Vessel.*
Nails, cut manufacturing. Peter Cliff - - Nov. 16 ..
Nails, heading and cutting machine for. I. Garretson - Nov. 16 ..
Nails, machine for cutting. Amos Whittemore - Nov. 19 ..
Nails, improvement in manufacturing. John Bigelow - Nov. 19 ..
Nails cut, manufacturing. George Chandlee - - Dec. 12 ..
Nails cut, improvement in manufacturing Daniel French Dec. 23 ..
Nails, wrought improvement in manufacturing. D. French Dec. 23 ..
Nails, heading, improvement in. Jared Byington - - Dec. 23 ..
Nails, improvement in heading. J. Frost - - Dec. 22 ..
Nails, a machine for cutting and heading. N. Reed - Jan. 8 1796
Nails, improvement in making. Lester Fling - - Dec. 19 1797
Nails, improvement in cutting and heading. James Spence Feb. 16 ..
Nails, improvement in heading and cutting. Jesse Kersey - Feb. 24 ..
Nails, improvement in heading and cutting. Jonathan Nevill Aug. 12 ..
Nails, *etc.* machine for making. Seth Hart - - Jan. 4 1799
Nails, improvement in making. Jacob Perkins - - Feb. 14 ..
Nails, machine for cutting and heading. F. Young - Aug. 23 ..
Nails, machine for making and heading. M. Garber, Lancaster co. Pennsylvania - - - - - Feb. 20 1801
Nails, cut from iron hoops, *etc.* M. Garber, Lancaster co. Penn. May 1 ..
Nails rendered tough. Nathan Kent, New York - - May 1 ..
Nails, milled out of heated rods. Jesse Reed, Boston June 9
Nails, machine for heading and cutting. W. Leslie, Claremont, N. H. Nov. 5 ..
Nails, machine for cutting. Edward West, Fayette co. Kentucky July 6 1802
Nails, machine for heading and cutting. E. West, Fayette co. Ken. July 6 ..
Nails, machine for making. Nathan Forbes - - Aug. 2 ..
Nails, machine for heading. Ben. S. Walcott - - Sept. 4 ..
Neutral salts, improvement in extracting from alkaline. B. Gorton Nov. 29 ..
Nail, machine for making. William Caruthers Dec. 13 ..
Nails, machine for making hot wrought. Oliver Bartlett, George Bartlett, and Otis Bartlett Feb. 14 1803
Nails and brads, machine for making out of hot rods. Lazarus Ruggles, Milford, Connecticut - - October 10 ..
Nails. See *Rolling Plates of Iron.*
Nails and brads, improvement in making out of rolled iron. Jos. Elgar, Brookville, Maryland - - December 16 ..
Navigation, machine for the impt. of. A. Hunn, Danville, Ken. March 24 1804
Nails, machine for slitting and heading. Michael Garber April 17 ..
Nails and spikes, machine for making. B. Allison and R. French June 8 ..
Nails, improvement in machine for cutting. Nicholas Boureau, August 21 ..
Nails, machine for cutting, with the grain of the metal. F. W. Geyssenhayner - - - Dec. 22 ..
Nails, brads, *etc.* machine for cutting. Increase Kimball, N. H. May 1 1805
Nails, machine for cutting and heading. Jesse Reed, Boston Feb. 22 1807

Nails, machine for cutting. Elisha Bigelow, Baltimore April 1 1807
Nails and brads, machine for. Jordan Dodge, Rutland, Vermont July 8 ..
Nails, machine for wrought. Jonathan Nichols, Rhode Island July 11 ..
Nails, machine for cutting and heading. S. Willard, Hudson, N. Y. Nov 30 ..
Nails, machine for heading. Samuel Rogers, Plymouth, Mass. Dec 15 ..
Nails, machine for cutting. Jonathan Hicks, Hadley, Mass. Jan. 28 1808
Nail machine. Joseph Jelleff, Butternuts, New York June 14 ..
Nails, machine for heading. Asaph C. Handler and S. Shepard, Taunton, Massachusetts - - - Sept. 16 ..
Navigating rivers and shoal waters. M. Williams, Albany, N. Y. Feb. 24 1809
Nail machine. Jesse Reed, Kingston, Massachusetts April 15 ..
Nail machine. Samuel Wilmot, jun. New Haven, Conn. April 21 ..
Nail machine. Luther Bissell, Bartwich, New York June 27 ..
Nails, mode of casting composition. J. Walworth, New York Nov. 22 ..
Nail machine. Briggs Rogers Reed, Danvers, Massachusetts March 8 1810
Nail machine, *etc.* Jacob Perkins, Boston, - - July 17 ..
Nail machine, eccentric roller John Fairbanks, Boston Aug. 14 ..
Nail machine for cutting and heading at one operation. Briggs R. Reed, Salem, Massachusetts - - Aug. 18 ..
Nail machine for cutting and heading at one operation. Jesse Reed, Kingston, Massachusetts - - Sept. 16 ..
Nail machine for cutting and heading at one operation. William Miller, New York - - - - Sept. 26
Nail machine for cutting and heading at one operation. I. P. Swain, and J. Skinner, Roxbury, Massachusetts - - Feb. 8 1811
Nail machine for wrought. A. Eastman, Norway, Mass. - April 8
Nail machine. E. Avery Lester, Herkimer, New York May 8
Nail machine. Jesse Reed, Kingston, Massachusetts - Aug. 14 ..
Nail machine. Mark and Richard Reeve, Philadelphia Nov. 14 ..
Nail machine. Robert Turner, Boston - - Nov. 25 ..
Net or seine. Samuel May, Columbia, Pennsylvania - Jan. 11 1812
Nails, machine for cutting and heading. J. White, Phil. Jan 11 ..
Nails, machine for cutting and heading. Mark and Richard Reeve, Burlington, New Jersey - - - Feb 3 ..
Nail machine, for cutting and heading. John Newalls, Nath. and Daniel Chichering, Dover, Massachusetts - March 9 ..
Nails, machine for heading and cutting. Mark and Richard Reeve, Burlington, New Jersey - - Oct 31 ..
Nails brass, copper, composition. G. W. Robinson, Attleborough, Massachusetts - - - March 17 1813
Nails, machine for cutting and heading. M. and R. Reeve, Phil. April 16 ..
Nap on cloth, machine for raising. J. Mather, Barre, Vermont May 27 ..
Nail machine. William Lutgen, Marrietta - Sept. 8 ..
Nail machine. Mark and Richard Reeve, Philadelphia - Sept. 28 ..
Nail machine. Richard Moore, Lycoming county, Penn. Jan. 13 1814
Nails, machine for heading. Samuel Rogers, Bridgewater, Mass. Jan. 26 ..
Nail, sprig, brad, machine. R. Turner, Boston - Feb. 21 ..
Nail cutting machine. E A. Lester, Herkimer, N. Y. April 2 ..
Nails, machine for heading. Jacob Davey, Fairhaven, Vert. April 7 ..
Nails, brads, *etc.* machine for. Stephen Belnap, Washington City April 8 ..
Nails, cutting and heading. Samuel Rogers, Bridgewater, Mass. Oct. 21 ..
Nails, cutting and heading. Jesse Reed, Hanover, Mass. Oct. 22 ..
Nails, cutting and heading. Jesse Reed, Hanover, Mass Dec. 16 ..
Nail machine. Nathan Elgar, York, Penn. - June 19 1815
Nail machine. John Elgar, York, Penn. - June 21 ..
Nails, machine for cutting and heading. Nathan Elgar, Yorktown, Pennsylvania, - - July 25 ..
Nail machine. E. Bartholomew, and W. Church, Boston, Aug. 18 ..
Nails, machine for heading. Henry Sedam, Troy, New York, Sept. 6 ..
Nail machine. Charles Phillips, jun. Sacketts Harbour, N. Y. Oct. 21 ..
Nail machine. W. Waring, and C. Phillips, jun. Jefferson, N. Y. Oct. 21 ..
Nail cutter, cylindrical improvement. Jacob Perkins, Newburyport, Massachusetts, - - - Nov. 1 ..

Nail, brad, cutting machine. E. A. Lester, Baltimore Dec. 27 1815
Nail machine. Henry Hayes, Philadelphia - - Feb. 24 1816
Nail machine. F. A. Russell, Georgetown, D. C. - March 14 ..
Nails, cutting and heading. Mark Reeve, Philadelphia - June 26 ..
Nail machine, improvement on. Mark Reeve, Philadelphia June 27 ..
Notes, Bank. See *Mark of Opacity.*
Nails, machine for cutting and heading. T. Newhall, jun. Essex co. Massachusetts - - - Sept. 7 ..
Nails, machine for cutting and heading. Israel Northorp, Oneida, New York - - - - Jan. 7 1817
Nails, machine for heading. Elisha Rigelow, Mass. - Jan. 29 ..
Nail cutting machine. Roswell Noble, Baltimore, - Dec. 17 ..
Nap on cloth, machine for raising the. Eli Starr. Thomson, Sullivantownship, New York, - - - March 20 1818
Nails, machine for cutting and heading. Herman M'Cluer, Cortland county, New York, - - - April 18 ..
Nail machine for brads, *etc.* Gridley Jenkins, Plymouth co. Mass. May 16 ..
Nail machine. J. Kells, and J. Carter, Philadelphia - June 10 ..
Nail machine, improvement on. Melville Otis, Boston, Dec. 31 ..
Nails, sprigs, clouts, *etc.* polished. Roswell Noble, Baltimore, May 17 1819

O

Oiled silk, linen, &c. manufacturing. Ralph Hodgson, N. Y. Feb 1 1793
Oil whale, cleansing. Benjamin Folger, Hudson, New York Jan. 2 1792
Oil from cotton seeds. (See)
Oil spermaceti, *etc.* purifying. Richard Robotham - Aug. 14 1799
Oil, mode of infusing into leather. H. Guest, New Brunswick, N.J. July 16 1801
Oil press, improvement in. Josiah White - - Nov. 27 1804
Oakum, mode of manufacturing from old junk, *etc.* Daniel French, Middletown, Connecticut - - - Oct. 9 1805
Oakum, machine for picking. M. Morrison, Newburyport, Mass. Feb. 14 1806
Oven. See *Perpetual.*
Oakum, mode of making. Daniel Rider, New York - April 26 1808
Ovens. John West, Stafford co. Virginia - - Oct. 27 ..
Oil linseed, mode of discolouring. N. S. Parmantier, Phil. June 30 1809
Ovens. John Barnett, Upper Providence, Penn. - March 3 ..
Ores, mode of working certain. V. and J. King, Bellair, Md. May 30 1811
Oils, mode of purifying. Lewis Lecesne, New York - June 25 ..
Oil of vitriol, apparatus for. Richard Maben, New York - Aug. 21 ..
Oven for baking. John Bouis, Baltimore - - Dec. 30 1812
Oars, wheels for elastic. Louis M. Latour - - Feb. 16 1813
Ores reducing to powder. Henry Alexander, Baltimore Oct. 27 ..
Oars melting. Daniel Walworth, Middletown, Conn. May 27 1814
Opacity, mark of. J. Rich, and E. Star, Philadelphia - May 11 1816
Ointment for various uses. Wm. Judkins, Smithfield, Ohio June 20 ..
Oar, head for steering Cornelius Seaman, Washington co. Md. May 15 1817
Ovens, mode of constructing. E. Treadwell, Salem, Mass. Aug. 27 1818
Organs, improvement in. Aaron M. Peasley, Boston Nov. 11 ..
Odometer for measuring distances. J. Clarke, Powhattan co. Va. Nov. 30 ..
Oxymuriate of lime, apparatus for the. J. Kendall, Lincoln Mass. Jan. 28 1820

P.

Pantiles, making of. See *Bricks.*
Paper moulds, improvement in. John Carnes, jun. Delaware April 17 1793
Paper, improvement in manufacturing. John Biddis, Penn. March 31 1794
Pendulum, double, for ships. Robert Leslie, Philadelphia Jan. 30 1793
Pendulum, clock. Do. Do.
Pendulum, double. Do. Do.
Piles, driving for bridges, &c. John Stone, Concord, Mass. March 10 1791
Pills, bilious, composition of. Samuel Lee, jun. Conn. - April 30 1796
Plants, preservation of. George Morris, Philadelphia - July 10 ..
Points to remove pains, &c. E. Perkins, Connecticut Feb. 19 1797
Pumps, water working. E. Rigg, Pennsylvania July 29 1794

Punches for making impressions. Francis Bailey, Phil. Jan. 29 1791
Paste. See *Dough.*
Piano forte, improvement in the. James S. M'Lean May 27 1796
Pumps, improvement in. Theobald Bourke - Nov. 16 1796
Printing press, improvement in a. Apollos Kinsley Nov. 16 ..
Preambulator for measuring a ship's way. Amos Whittemore Nov. 19 1796
Pumps, improvement in boring. Caleb Leach - April 13 1797
Pills, anti-bilious. Benjamin Duvall, - - May 3 1797
Ploughs, improvement in Charles Newbold - June 26 1797
Pills, bilious. Samuel H. P. Lee - - - June 26 1799
Pipes and pumps. See *Water.*
Printing paper, leather, *etc.* a machine for. John Dixey Jan. 24 1798
Pump, an oblique. Jonathan Hunt - - June 7 1798
Paper manufacturing, improvement in. Cyrus Austin Dec. 14 1798
Pills, a composition for Samuel Cooley - - June 6 1798
Paper, manufacturing of. Robert R. Livingston - Oct. 28 1799
Pump, universal. Apollos Kinsley - - Oct. 28 ..
Pills, Hawk's. John Hawks - - - Dec. 14 ..
Pumps for ships, mines, *etc.* John Stickney - November 29 1799
Piano forte, improvement in. John J. Hawkins - February 12 1800
Painters' colours, mode of grinding. See *Mill for do.*
Potash, mode of manufacturing. Thomas Power September 19 1801
Paper made from curriers shavings. J. Condict, jun. Newark, N. J. Dec 28 1802
Paddles for propelling boats, improvement in. R. Claiborne, Mon-
ongalie county, Virginia - - February 23 ..
Potatoes. See *Starch made from.*
Pumps, improvement in. Jacob Perkins - July 9 ..
Pressing cotton, machine for. J. Idler, Washington City September 24 ..
Paper manufactured from corn husks. Burgess Allison and John
Hawkins, Burlington, New Jersey - Deecmber 30 ..
Pentagraph and parallel ruler. J. J. Hawkins, Bourdenton, N. J. May 17 1803
Pumping, machine for. John Clark, Hudson, New York May 19 ..
Physiognatrace. Isaac Todd, Augustus Day, and William Bache June 15 ..
Packing goods, machine for. J. Clark, and E. Evans, Hudson, N.Y. July 20 ..
Pipes leaden and others, secured from frost. David Lownes, Phil. July 21 ..
Powder mill, improvment in. George Keyser - July 27 ..
Pills, family. Daniel Coit, St. Albans - - Oct. 5 ..
Pump. See *Bellows dry.*
Propelling boats, for inland navigation improvement in. William
Bell, Camden, South Carolina - - Nov. 25 ..
Painting rooms improvement in. John Selby, Baltimore Dec. 30 ..
Pumps. See *Air and Bellows.*
Paper mills, improvement in. Thomas Longstreth, Phil. May 1 1804
Pump boxes, improvement in the construction of. J. Stickney, Balt. May 1 ..
Pot and pearl ashes, furnace for making. Edward Crafts, jun. Ge-
neva, New York - - - May 12 ..
Pumping. See *water.*
Plough, improvement in. John Deaver - July 12 ..
Plaster mill. Emanuel Kent - - Sept. 14 ..
Physiognotrace. Daniel Atherton, Richmond, Virginia May 4 1805
Posts of clay for fencing, mode of making. William Cooley, Bol-
ton, Connecticut - - - May 27 ..
Paning by machinery. John Bennock, Boston - June 1 ..
Polychrestum. See *Sulphate, &c.*
Picking oakum. See *Oakum.*
Planeing machine. Joseph Hawkins, Philadelphia Feb. 19 1806
Planeing machine. See *Joining.*
Propelling boats up rivers by cranks and setting poles. John
Haven, Montgomery, Virginia - - April 17 ..
Pantiles. William Harwood, Richmond, Virginia - July 3 ..
Paint. See *Yellow.*
Perpetual oven. James Deneal, Dumfries, Virginia - Dec. 4 ..
Paper trimmer. Park. Shee, Philadelphia - Feb. 7 1807

Pendulum screw. Lewis Dupie, Charleston, South Carolina April 1 1807
Plough, improvement in. David Peacock, Burlington, N. J. April 1 ..
Propelling boats, &c. by oars. James A. Pearce, Louisville, Ken. April 1 ..
Paper, machine for making. Charles Kinsey, Essex, New Jersey May 8 ..
Piano forte, improvement in. Ralph Shaw, Boston July 2 ..
Pills, machine for making. Webster Lewis - - July 10 ..
Pastes, mode of making Italian maccaroni, vermicelli, &c. John B. Sartori, Philadelphia - - - July 13 ..
Planking hats, machine for. Joseph Pitkin and Timothy Kimball, Hartford, Connecticut - - - Oct. 19 ..
Plough improvement in. Hezekiah Harris, Bullett, Ken. Feb. 24 1808
Pump, improvement in. Daniel Watson, Plymouth, Mass. Mar. 4 ..
Propelling. See *Boats.*
Pump. See *Forcing.*
Propelling boats, machine for. W. Wadsworth, Hartford, Conn. March 15 ..
Pendulum power for machinery. J. Tallman, Albany, New York Mar. 31 ..
Press screw. Thomas Cahoon, Washington - - April 14 ..
Paper. See *Smoothing.*
Pearl ash, mode of making. Ruben Answorth - May 16 ..
Pumps, improvement in. William Rhodes, New York - May 26 ..
Pressing machine. R. Peirpoint Cunningham, Pomfret, Conn. May 21 ..
Press. See *Double Lever.*
Propelling boats across rivers by the current. Samuel Stilwell, and Daniel S. Wandal, New York - - June 3 ..
Pressing and boring machine. Robert Ramsey, New Hampshire July 9 ..
Pressing straw or chip hats, machine for. Samuel Prince, N. Y. Aug. 31 ..
Pump bellows for furnaces, *etc.* Isaiah Jennings, New York Sept. 20 ..
Pigment black for printing ink, *etc.* J. Cist, Wilkesbarre, Penn. Oct. 28 ..
Plough, improvement in. Richard B. Chenoweth, Baltimore Nov. 25 ..
Plaster of Paris, mill for breaking. William Brown, Baltimore Dec. 8 ..
Pipes or tubes, mode of casting. Williard Badger, Boston Dec. 26 ..
Pneumatic forcing pump. Phiny Upham, Brookfield, Mass. Jan. 6 1809
Pumps. Abraham Horn, Easton Pennsylvania - Jan. 6 ..
Pounding rice, machine for. A. D. Moore, New Hanover, N. C. Jan. 19 ..
Pot ash. See *Lye.*
Paper, mode of making from alga. S. Green, New London, Conn. Feb. 15 ..
Paring apples, machine for. Williard Badger, Boston Feb. 16 ..
Pendulum mills. Isaac Cobb, Walpole, New Hampshire March 1 ..
Planting machine. John Beecher, Lycoming co. Pennsylvania March 18 ..
Pounding. See *Rice.*
Pump, mechanical. William Schultz, Baltimore - June 24 ..
Press. See *Washing.*
Pumps. Jacob Canfield, Morristown, New Jersey June 28 ..
Pendulum lock. Samuel Goodwin, Baltimore : July 7 ..
Paper moulds. See *Wire Work.*
Pipe or grate heater. See *Boiler.*
Pruning shears. Simon Jocelin, New Haven, Connecticut July 13 ..
Planting plough. Frederick Woodward, New Lisbon, N. Y. July 18 ..
Pump, uniform working. James Josslyn, Hanover, Mass. July 25 ..
Planeing boards. Christian Ritter, Beaver, Pennsylvania Aug. 11 ..
Press for cheese, *etc.* Israel Nichols, Otsego, New York Oct. 12 ..
Planeing machine. Joseph Coppinger, Beaufort, South Carolina Oct. 31 ..
Preserving animal and vegetable substances. Joseph Coppinger, Beaufort, South Carolina - - Nov. 23 ..
Pen, metallic writing. Peregine Williamson, Baltimore Nov. 22 ..
Pump, double bored pendulum. A. Fana, Montgomery, Penn. Dec. 5 ..
Pump, balance wheel. Lewis Schrach, Norristown, Pennsylvania Dec. 8 ..
Plating gun barrels, *etc.* John Fowler, Lancaster, Pennsylvania Jan. 4 1810
Plating horn combs. John P. Spies, Baltimore - Jan. 8 ..
Protractor, universal. Ennion Williams, Philadelphia Jan. 19 ..
Printing press. J. P. Sawin and T. B. Wait, Boston Feb. 1 ..
Pendulum scale. Moses L. Morse, Cambridge, Massachusetts Feb. 21 ..
Propelling machine. Abraham G. D Tuthill, New York Feb. 22 ..

Pressing machine. R. V. W. and J. Thorne, New York March 26 1810
Pump, horizontal. Luther Holland, Belcher town, Mass. March 28 ..
Perpetual. See *Still.*
Pressing cloths. Joseph Sage, Berlin, Connecticut April 14 ..
Pricking leather, machine for. Robert U. Richards and Mills Richards, Norfolk, Connecticut April 24 ..
Pumping machine. Royal Yeamans, Springfield, Massachusetts May 23 ..
Pendulum machine. Joseph Lefever, Providence, R. I. June 13 ..
Printers' ink. Ben Chase, New London, Connecticut June 28 ..
Pump, Chinese chain. Jeremiah Black, Northumberland, Penn. Aug. 2 ..
Press, windlass lever. T. Williams, Philadelphia Aug. 31 ..
Press, double screw. Elisha Winter, New Orleans Sept. 4 ..
Printing paper and calico. Leonard Beatty, Wilkesbarre, Penn. Dec 28 ..
Pump. See *Steam.*
Printing press. John P. Sawin and T. B. Wait, Roxbury, Mass. Jan. 28 1811
Pressing cloths with plates. Volkert Vedden, Amsterdam, N. Y. Feb. 6 ..
Pump, double forcing. William Beach, Franklin county, N. Y. Feb 19 ..
Propelling boats by horses, &c. S. Fuller, Clerk co Indiana Feb. 19 ..
Pump, double forcing. T. Ferris, Duchess county, New York Feb. 20 ..
Plat, straw. William Pond, Wrentham, Massachusetts Feb. 28 ..
Paddles. See *Chain.*
Pump, double forcing. Levi Gray, Otsego, New York March 7 ..
Pump. Pliny Upham, Brookfield, Massachusetts March 9 ..
Pendulum steam engine. John Staples, Richmond, Virginia July 18 ..
Pegs for shoes. Samuel Hitchcock and John Bement July 30 ..
Pump, sea motion. Bennet Lies, New York Aug. 19 ..
Plough, varying the motion of. John Sandford, Sharon, Conn. Aug. 20 ..
Pump for the use of ships. Andrew Kenshaw and Nathan Harlow, jun. Bangor, Massachusetts Aug. 30 ..
Plough. Nicholas Turbet, Fredericktown, Maryland Sept. 7 ..
Pump. Luther Holland, Belchuston, Massachusetts Sept. 10 ..
Pleasant spinners. Daniel Reed, Brookfield, New York Sept. 10 ..
Press for pressing cotton, hay, &c. Moses Jaques and Henry Freeman, Woodbridge, New Jersey Oct. 2 ..
Pendulum mill. Solomon Thayer, Braintree, Mass. - Oct. 9 1811
Press, wooden screw for cotton. Jacob Pierson, Knoxville, Tenn. Oct. 17 ..
Posts, machine for boring. Anthony Butler, Vermont - Nov. 7 ..
Portable kitchen. James Trueman, Philadelphia - Dec. 3 ..
Pump. Jonathan Evans, Whitestown, New York - Jan. 6 1812
Plough. John Klay, Frederick co. Md. - - Jan. 11 ..
Plough. Roswell Tousley, Cayuga, New York - - Jan. 11 ..
Press increasing. Abraham Norton, Litchfield, Conn. - Feb. 11 ..
Pump and fire engine. Isaiah Jennings, Philadelphia - April 1 ..
Plaster of Paris, breaking. Paul Geiger, Robison, Berks co. Penn. May 12 ..
Propelling boats. William Shaw, Otsego, New York June 5 ..
Pressing and straining oil, &c. John Cunningham, and Samuel S. Edmonston, New York - - June 29 ..
Plumets of lead. Thomas Weston, Peacham, Vermont June 26 ..
Pump, cog and pendulum. Bennet Lies, New York - Aug. 6 ..
Propelling boats and vessels, &c. Alexander Anderson, Phil. Aug. 21 ..
Propelling boats by sculling. Isaac Siluman, Philadelphia Dec. 17 ..
Pendulum mill. William Grandin, Hector, New York Jan. 6 1813
Pitch forks. Jared Byinton, Hinesborough, Va. - Jan. 12 ..
Preparing colours and paints. Henry Alexander, Baltimore Jan. 14 ..
Plough. John Sietz, Strasburg, Penn. - Feb. 8 ..
Printing press and mode of distributing the ink. William Elliot, Washington, District of Columbia - Feb. 17 ..
Printing press. Z. Mills, Hartford, Conn. - Feb 26 ..
Planeing machine. W. Badger, Madison co. Miss. Territory March 2 ..
Perpetual wool spinner. Burgess Allison, Burlington, N. J. March 3 ..
Pumps. Jacob Perkins, Newburyport, Mass. - March 23 ..
Press for hay. Richard V. W. Thorn, New York - April 29 ..
Perspective drawing mechanically. S. De Witt, Albany, N. Y. April 30 ..

Plane irons, manufacturing. Daniel Pettibone, Philadelphia May 6 1813
Plough, bull. Sylvanus Tousley, Onandago, N. Y. - May 28 ..
Plough. Mathew Patrick, Scipio, New York - June 2 ..
Press. Silas Hitchcock, Vernon, New York - June 25 ..
Printing press. Jacob Perkins, Newburyport, Mass. June 29 ..
Printing press. Daniel Pierson, Newburyport, Mass. July 16 ..
Pumps. Thomas Nicholson, and Samuel Gunn, Genoa, N. Y. Aug. 6 ..
Plough. Mathew Murray, Middletown, Maryland - Aug. 7 ..
Plough. Horace Pease, Enfield, Conn. - - Aug. 28 ..
Press. Samuel S. Edmonston, New York - Sept. 1 ..
Paper hanging. Hezekiah Steel, Hudson, New York - Sept. 8 ..
Pump for elevating grain. J. Ewing and D. Dickey, Oxford, Penn. Oct 2 ..
Planeing machine. William Kimball and Samuel Willard, jun.
Mount Vernon, New Hampshire - - Oct. 23 .
Propelling boats by levers, *etc.* John T. Schenck, New York Oct. 23 .
Paint, iron made into B. Wilbur, Whitestown, N. Y. Feb. 10 1814
Proof for ardent spirits Benjamin Miller, New Salem, N. Y. Feb. 21 ..
Potatoes, machine for grinding. Jesse King, Florida, N Y. March 1 ..
Plough bar share. John and Joshua Butter, Chester co. Penn March 1 ..
Paper, pelts used in making. John M. Thorndike - March 7 ..
Pegs, attaching leather with. S. B. Brown, West Chester, N. Y April 2 ..
Pipes, making lead Alpheus Tod, Oxford, N. H. - - April 18 ..
Paints, grinding. Peter Bristead, Green co. New York - April 18 ..
Ploughs. J. Wood, Scipio, New York - - - July 1 ..
Ploughs. Jonathan Swan, Scipio, New York - - July 5 ..
Pounding rice, *etc.* Asa Nourse, St. Luke's, S. C. - - July 5 ..
Pins, machine for making. Moses L. Morse, Boston - - Aug 22 ..
Plough. J. Morgan and J. B. Harris, Scipio, New York - Oct. 11 ..
Pins and needles, making. William F. Hill, New York - Oct. 15 ..
Preserving animal and vegetable substances, *etc.* D. Cooley, N. Y. Oct. 24 ..
Plough, bull. Roswell Tousley and J. Swan, New York - Nov. 9 ..
Plough. Henry Shultz, Lancaster, Penn. - - Dec. 17 ..
Packing, machine for. Joseph Lyon, Philadelphia - - Jan. 15 1815
Paint, mode of making brown. T. Miller, jun. Madison co. N. Y. Jan. 25 ..
Press, cider mill. Ozias Pettibone, Hartford, Conn. - March 1 ..
Perspective protractor. Bass Otis, Philadelphia - - March 14 ..
Pump, double air and water. James Smallman, Philadelphia March 27 ..
Pin lathe for buttons. William Lawrence, Menden, Conn. April 12 ..
Pressing machine. Timothy Puffer, Paris, New York May 23 ..
Pedometer, sea. Bennet Lies, New York June 20 ..
Paper, machine for printing and staining. B. Mesteyer, N. Y. June 28 ..
Pump, double air. James Smallman, Philadelphia Aug. 29 ..
Pendulum machine. C. L Allen, Newark, New Jersey Oct. 13 .
Printing books. Samuel Randall, Warren, Rhode Island Jan. 4 1816
Pneumatic machine. David Lloyd, Cambria, Pennsylvania Jan. 7 ..
Plough, corn dressing. Elisha Bean, Massachusetts March 4 ..
Plaiting ruffles. S. W. Talbot, Dedham, Norfolk May 5 ..
Paper, heating the pulp for. J. Robison, Montgomery, Penn. May 22 ..
Propelling vessels in a calm. Stephen Rudd, New York June 14 ..
Pump. Edward B. Seammon, Scipio, New York June 20 ..
Piano forte. George Charters, New York July 8 ..
Press, steam. E. Barker, and John and Aaron Hall, Boston July 12 ..
Pontoons, construction of. Henry Carbery and William Tathan,
Washington - - - - July 19 ..
Pulverator. Nathan Jones, Boston - - July 23 ..
Plough, machine for drawing. Luke Johnson, Leominster, Mass. Aug. 6 ..
Piston. Peter A. Brown, Philadelphia - Oct. 9 ..
Plough, double. John Cromwell, Roystertown, Maryland Oct. 23 ..
Posts for chairs. Elijah Farrington, New York - Oct. 26 ..
Paper, making. Thomas Gilpin, Philadelphia - - Dec. 24 ..
Pipes, conduit. Elisha Putnam, Albany, New York - Dec. 31 ..
Pump, eliptic valve. James Baker, Charleston, Mass. - Jan. 16 1817
Paints and colours, impressing. Lewis J. B. Wells, Philadelphia Jan. 24 ..

Pump. Daniel W. Christman, New York - - Feb. 8 1817
Propeller, sub-marine. John L. Sullivan, Boston - March 24 ..
Pumps. John M. Dearborn, Boston - - May 3 ..
Pumps. Thomas Nicholson, Washington City - - April 29 ..
Pump, single valve. Isaac Scott, Boston - - May 2 ..
Pump. William P. Tilton, Boston - - - May 6 ..
Pump. James Baker, Boston - - - May 9 ..
Pump, horizontal circular valve. Eben. Lemon, Boston - May 23 ..
Plough. David Peacock, New Mills Post Office, New Jersey May 29 ..
Plough, angular. John Lupton, Virginia - - July 31 ..
Pump. John C. Helm - - Aug. 1 ..
Propelling vessels. Joseph Cerneau, New York - - Aug. 28 ..
Pumps. Luke M. and Mark Laighton, Portsmouth, N. H. Sept. 1 ..
Propelling vessels by animal power. J. P. Durand, New York Oct. 3 ..
Pumps. Spencer Thomas, Boston - - Oct. 10 ..
Pumps. William Purcell, New York - - Nov. 1 ..
Propelling boats by animal power. Anthony Olney, Canton, Mass. Dec. 11 ..
Perpetual ovens, improvement on Deneal's. W. T. Hunter, N. Y. Jan. 8 1818
Plugs and bungs, machine for cutting. A. Donaldson, Salem, Mass. Jan. 15 ..
Pen, instrument for holding. Henry Smith, Georgetown, D. C. Jan. 15 ..
Propelling boats, mode of. J. P. Durand, New York - Jan. 17 ..
Polishing powder. Holmes Greenwood, *Providence*, R. I. Jan. 28 ..
Pump, improvement in. Daniel Updike, New York Feb. 19 ..
Propelling boats. Joseph Cerneau, New York March 6 ..
Planeing boards, ect. machine for. J. Baldwin, Westfield, Mass. March 7 ..
Pumps. F. Harrison, Easton, Penn. - - March 16 ..
Propelling boats. Moses Isaacs, Philadelphia - - March 17 ..
Propelling boats M. Ulman, and Moses Isaacs, Phil. March 17 ..
Paper, machine for preparing rags for. B. Cox, Northhampton, Massachusetts - - - March 28 ..
Propelling boats. John James Giraud, Baltimore April 10 ..
Propellers for ships. John L. Sullivan, Boston - April 28 ..
Propelling boats, machine for. R. L. Deprest, New York May 9 ..
Pluribus unum. H. Clerc, and P. Ricardi, New York May 25 ..
Pump or suction machine. John Edwards, Urbana, Ohio May 25 ..
Plough. Gideon Davis - - - May 26 ..
Plaster, machine for breaking. A. Fettrow, York, Penn. May 28 ..
Painting fret, &c. John Mackay, New York - May 28 ..
Printing press. Adam Ramage, Philadelphia - May 28 ..
Propelling boats. Thomas Kearsing, New York June 6 ..
Plough. Samuel Ogle, Graceham Frederick co. Md. - June 9 ..
Pump. William Hendrick, New York - June 12 ..
Pumps, wing valves for. William Francis, Boston - July 11 ..
Piano fortes, improvement in. J. A. Gittwaldt, New York Aug. 27 ..
Propelling boats improvement in. Henry Farnham, Albany, N. Y. Sept 5 ..
Plough, improvement in. Perry Miller, Cambridge, N. Y. Oct. 26 ..
Plough shares, improvement in rolling out. Joseph Potts, Montgomery county, Pennsylvania - - Nov. 7 ..
Propelling boats, improvement in Abraham Taylor, N. Y. Nov. 18 ..
Propelling boats, improvement in. J. Gray Peekskill, N. Y. Nov. 18 ..
Propelling boats, improvement in. A. Bartholomew, Albany, N. Y. Dec. 1 ..
Plough, improvement in the. Lemuel Goodrick, and John Adams, Hudson, New York - - - Dec. 3 ..
Plough, improvement in the. Richard Nicholas, Harrison, N. Y. Dec. 19 ..
Paint, machine for grinding. E. Skinner, Sandwick, N. H. Dec. 28 ..
Plough, improvement in the. G. D. Avery, Wood co. Va. Dec. 28 ..
Propelling boats by the screw power. H. W. Wheatley, N. Y. Dec. 30 ..
Plough, improvement in the. Stephen M'Cormick, Faquier Court House, Virginia - - - Feb. 3 1819
Propelling boats, &c. Wm. J. Lewis, Va. - Feb. 3 ..
Printing press. John J. Wells, Hartford, Conn. - Feb. 8 ..
Pump. James Barron, Norfolk, Virginia - Feb. 20 ..
Press, progressive lever. Jacob Perkins, Philadelphia Feb. 27 ..

Printing press, improvement in the. B. Allison and William Elliot, Washington, District of Columbia - - March 11 1819
Plough, improvement in the. Zodock Harris, Hartford, Washington co. New York - - - March 17 ..
Propelling boats. James Lyon, Statesburgh, South Carolina April 3 ..
Propelling boats, &c. improvement in. D. Cooke, New Jersey April 16 ..
Pencils, composition for making. Joseph Ellis, Dedham, Mass. April 26 ..
Pump, improvement in. J. L. Munson, N. H. Conn. - April 26 ..
Pressing straw bonnets, machine for. Preston Whiting, Hopkington, Middlesex, co. Massachusetts - June 11 ..
Plough, improvement in the. Abraham and J. Tice, Union Village, New York - - - - Aug 21 ..
Plough, improvement in the. J. Wood, Poplar Ridge, Cayugo co. New York - - - - Sept. 1 ..
Pronunciation, mode of teaching. Jacob A. Cummings, Boston Nov. 3 ..
Plough. C. Bergen, New York - - - Nov. 11 ..
Pump Robert Gray, Milton, Pennsylvania - - Nov. 11 ..
Plough. J. Swartwout, Taghkanic, Col. county, New York Nov. 13 ..
Paper, machine for making. John B. Pignatelli, New York Dec. 2 ..
Posts, see a machine for boring. J. Corbett, West Hanover, Penn. Dec. 21 ..
Pump, double forcing. W. Baker, Springfield, Otsego co. N. Y. Dec. 31 ..
Plough, improvement in the. Philip Marshall and Jacob B. Smith, Lambertsville, New Jersey - - March 3 1820
Pump, wind power. Heman Bronson, Litchfield, Conn. March 8 ..
Plough, improvement in the. George Gibbs, New York March 8 ..
Privies, improvement in. Marc Marie Duplat, Charleston, S. C. March 16 ..
Propelling boats, machine for. W. R. Loweree, Queens co. N. Y. March 29 ..
Pump, improvement in the double forcing. S. Gillet, Hartford, Connecticut - - - - April 6 ..
Planetarium or heliogeastrium. Theodore Newall, Poultney, Vert. April 12 ..
Propelling boats John J. Giraud, Baltimore - - April 19 ..

Q.

Quercitron, or black oak bark, improvement in the preparation for exportation or home consumption. Thomas Benger Jan. 25 1804
Quadrant. See *Gunners.*
Quadrant. Josiah Arnold, Caledonia, Vermont April 14 ..
Quercitron or black oak bark. N. Harper, Frankfort, Penn. Oct. 30 ..
Quercitron, mode of preparing. Joseph Lyon, Philadelphia July 1 1811
Quercitron, machine for preparing. James Andrews, Philadelphia July 15 1816

R.

Rhus or shumack, manufacture of. See *Shumack.*
Rice and other grain, machine for scouring. Robert Geant Oct. 17 1796
Rice scoured, separating. James Dellet Dec. 23 ..
Rice, scouring or skinning, improvement in. Samuel Mullikin Feb. 20 1797
Rocks, &c. machine for removing. Isaac Lazell May 18 1798
Ropes, improvement in making. Michael Wigglesworth June 26 1799
Ruling books and paper. Mark Isambard Brunel Nov. 16 1796
Raising water by wind. Samuel Morey, New Hampshire April 11 ..
Runners and bows for sleighs and slidges. Abijah Wilder Dec. 14 1799
Rice, gunpowder, *etc.* machine for pounding. B. Botitho Feb. 7 1800
Rope yarn and twine, machine for spinning. Stephen Gorham Feb. 4 1800
Ruling paper, *etc.* machine for. Richard Robotham Oct. 10 1801
Rolling iron round, *etc.* Henry Abbot, Philadelphia May 4 1802
Rolling iron for nails. See *Nails.*
Rice. See *Hulling rice, machine for.*
Refrigerator for domestic uses. Thomas Moore Jan. 27 1803
Ruling machine, improvement in. Daniel Brewer, Philadelphia April 22 ..
Rolling, machine. See *Cleaning Cotton.*
Rectifying or improving spirits, improvement in the application of the principle. Burgess Allison, Philadelphia May 17 ..
Rocks. See *Boring under water.*

Ruling paper. See *Cylindric ruler.*
Ruling plates of iron and cutting them into nails. Samuel Rogers, and Melville Otis - - - Dec. 7 1803
Rheumatic, liniment. Abel Brown - - Oct. 17 1804
Rafts. William Deane, Pittsburgh, Penn. - - Nov. 4 1805
Rheumatic pill. George Barber, Dexter, Boston - Dec. 18 ..
Reaping grain, machine for. Samuel Adams - Dec. 28 ..
Rowing machine. Eben Bryant, New London, Conn. Jan. 13 1806
Rope yarn. See *Spinning.*
Raising vessels, machine for. J. T. Morgan, New York Oct. 9 1806
Ruptures. See *Truss.*
Ropes, mode of making to any size. John Sellers, and Andrew Bartle, Alexandria - - - May 5 1807
Rigging vessels. Stephen Sayre, Bordentown, New Jersey May 9 ..
Rays of the sun. See *Heating.*
Rolling and slitting mills. Isaac Pierson, New York - Dec. 21 ..
Ruling machine, cylindric. John Fairbanks, Boston April 21 1808
Rivets, machine for making. Josiah Jennings, New York April 25 ..
Rectification of spirits. Osborn Parsons, Hudson, New York June 23 ..
Rice, machine for cleaning. J. Lucas, jun. Charleston, S. C. July 12 ..
Rice, machine for hulling and cleaning. J. T. Ricketts, Cameron, Vermont - - - - Aug. 8 ..
Raising water, machine for. Wm. Barker, Wilkesbarre, Penn. Aug. 26 ..
Ratched wheel. Marcus B. Parmelee, New Town, Conn. Sept. 21 ..
Refining lamp oil. Eli Fourestier, Philadelphia - Nov. 17 ..
Rotary steam engines. See *Stills.*
Re-acting water wheel, M'Combs, improvement in. Joel Farnham, Oswego, New York - - Nov. 23 ..
Rolling wheel on an inclined shaft. S. Mirick, Madison co. N. Y. Nov. 30 ..
Rolling and plating iron, machine for. Stephen Couch and Asa Towne, Boston Dec. 10 ..
Reading, mode of teaching. Hugh Chard, Washington co. N. Y. Feb. 16 1809
Rice, machine for pounding. Jacob Reed, Charleston, S. C. June 9 ..
Roving machine for flax and hemp. G. Brown, Schatecoke, N. Y. June 16 ..
Ropes See *Cables.* William Schultz, Baltimore
Rapid jack for ascending rapids. Augustus Sacket, N. Y. July 3 ..
Rice, machine for cleaning. Roswell King, Darien, Georgia Nov. 21 ..
Rocks, machine for drilling. E. Jones and Philip White, Brookfield, Massachusetts - - - Dec. 21 ..
Raising grain. Jeremiah Bailey, Chester co. Penn. - March 5 1810
Rollers for sheaves of blocks. Mark Laighton, Portsmouth, N. H. Mar. 14 ..
Rice, Machine for beating out. J. Beck and J. Coppinger, Becksferry, S. C. - - - - March 19 ..
Raising water, machine for Samuel Cuney, Williamson co. Tenn. April 24 ..
Reflector, elastic lamp. Joseph Flag, jun. Boston - May 17 ..
Reflecting and magnifying lantern. Winslow Lewis, Boston June 8 ..
Rifle guns. Elisha Strong and C. Kellog, New Hartford, Conn. Aug. 31 ..
Reverting wheels. Otis Paine, Foxborough, Mass. - March 1 1811
Rice, machine for hulling. Sherman Dewey, Hartford, Vermont, March 2 ..
Rollers, mode of casting iron. Cyrus Alger, Boston - March 30 ..
Ripening and keeping malt liquor Robert Hare, Philadelphia Aug. 22 ..
Rolling wire. James Howell, Philadelphia - - Jan. 11 1812
Ruling machine. Asa Spencer, New London, Conn. - Feb. 7 ..
Rowing and propelling boats. William Shaw, Otsego, New York Feb. 19 ..
Rubbing wheat, &c. machine for. J. D. Richards, Middleburg, Va. Feb. 27 ..
Do. Do. George M. Adam Brown, Northumberland, Va. - - - March 19 ..
Rolling machine. Josiah White, Philadelphia - May 15 ..
Roping and spinning machine. G. Cornell, Renslaer, New York July 22 ..
Roping and spinning cotton, &c. John Brown, Providence, R. I. Aug. 8 ..
Rail ways. See *Chain Carts.*
Rake for collecting apples. Ezias Hart, Berlin, Conn. - Dec. 31 ..
Refrigerator. J. W. Kennagh and J. Talbot, Georgetown, D. C. Mar. 16 1813

Repeating gunnery. Jos. C. Chambers, West Middletown, Penn. Mar. 23 1813
Ropes and twine making. J. Heaven, Montgomery C. House, Md. Aug. 3 ..
Rheumatic pills. Ezra Deane, Biddeford, Mass. - Jan. 13 1814
Roller, impressed. John Owings, Baltimore - - Jan. 25 ..
Ruler, spring pen. T. M. Pomroy and L. Hedge, Windsor, Vert. June 21 ..
Roller toothed for sowing. Abel Densmore, Le Roy, New York July 29 ..
Reconductor, the. John Sargent, Vernon, New York - April 23 1816
Roving machine for cotton. William Bryant, Davidson co. Tenn. April 29 ..
Reed, weavers. Jeptha A. Wilkinson, Otsego, New York July 3 ..
Ruling, paper. Lewis Henry, Bellows Fall, Vert. - Aug. 24 ..
Rolling bar-iron edgewise. George Ellicott, Baltimore - Sept. 20 ..
Refining sugar. Mervin Merrill, New York - - Oct. 25 ..
Rocks blown under water. J. M. Syme, Richmond - Dec. 12 ..
Rivers, machine for cleaning the bottoms of. J. Tucker, Balt. Dec. 13 ..
Ruling machine, double. T Newhall, jun. Lynn, Mass. - Dec. 26 ..
Ribbons, machine for glossing. Charles Cromwell, New York Jan. 27 1817
Revolving ruler. Lemuel Hedge, Windsor, Vert. - March 3 ..
Rope yarn, manufacturing. John Petman - - March 14 ..
Ruling machine. George Strowhuver and Fred. Sanxay, Cincinnati, Ohio - - - - Sept. 1 ..
Roller for beating. Hugh Maxwell, Lancaster, Penn. - Dec. 26 ..
Reaping and thrashing machine. John Hersey, Mathews co. Va. Feb. 9 1818
Ratts, mode of constructing. Daniel Gordon, Chanceford, Penn. Feb. 14 ..
Rudder, mode of hanging ships'. Com. John Shaw, Phil. April 10 ..
Rollers, lathe for turning. Sam Rogers, Bridgewater, Mass. June 24 ..
Rolling sheet iron, machine for. Do. Do. June 24 ..
Rubbers, side. John L. Sullivan, Boston - - Dec. 11 ..
Ropes, machine for. Robert Colbert, Boston - - March 17 1819
Rice polisher. J. Lucas, jun. Charleston - - Nov. 6 ..
Rockers for cradles, chairs, &c. Samuel Simmons, Baltimore Dec. 21 ..
Razor strops, improvement in. Jonas Crumbacker, Union, Frederick county, Md. - - - Dec. 24 ..
Readies for cordage and ropes. Robert Graves, Boston - Dec. 31 ..
Ropes and cordages, making Eleazor Crain, Springfield, N. Y. Jan 10 1820
Rail ways and carriages, impt. in. C. Williams, Richmond, Va. Jan. 18 ..

S.

Spindles, diminishing friction of. Robert K. Livingston, Clermont county, New York - - - - Aug. 4 1791
Steam engine, improvement on Captain Savary's. James Rumsey, Berkley co. Virginia - - - Aug. 26 ..
Steam, generation of. Do. Do. Aug. 26 ..
Steam, application of to propel boats or vessels. Do. Do. Aug. 26 ..
Steam engine applied to navigation. John Fitch, Philadelphia Aug. 26 ..
Steam engine, boiler of. James Rumsey, Berkley co. Va. Aug. 26 ..
Steam, boiler for the generating. J. Stevens, jun. Bergen co. N.J. Aug. 26 ..
Steam raising water by. Ditto Ditto Aug. 26
Steam, applying the force of. Ditto Ditto Aug 26. ..
Steam engine boiler. Nathan Read, Massachusetts. Aug 26. ..
Steam engine, improvement on Savary's, for raising water. Englehart Cruse, Baltimore, Md. - - - Aug. 26 ..
Steam jack. John Bailey, Boston - - - Feb. 23 1792
Steel, hardening and tempering. David Hartley, Boston - Feb. 24 ..
Spit, new method of turning a. S. Morey, Oxford, Grafton co. N. H. Jan. 29 1793
Sails of ships and boats, applying and regulating the. Joseph S. Sampson, Boston - - - - July 5 ..
Sail, duck, weaving. James Davenport, New Jersey - Feb. 14 1794
Salt, making from sea water. James Fennel, Penn. - Sept 24 ..
Saw, round. Zachariah Cox, Georgia - - March 14 ..
Seed, clover and others, cleaning. Jonathan Roberts, jun. Penn. Feb. 13 1796
Silk, linen, &c. oiled. See *Oiled, &c.*
Skins, seals, manufacturing of. James Eaton, Mass. - Feb. 16 ..
Steam, application of. Samuel Morey, New Hampshire March 25 1799

Stone and marble, polishing of. Samuel Mulliken, Philadelphia March 11 1791
Stones, mill; handmill for picking of. Jonathan Dorr and Solomon Hodge, Washington, N. J. - - - Oct. 23 1792
Sumac, or rhus. Richard R. Saltonstall, New London, Conn. Feb. 28 1793
Ditto Ditto Ditto - - May 1 ..
Sugar, moulds for claying. Jonathan Williams, jun. Phil. March 13 ..
Stone of cast iron. Robert Heterick, Penn. - - June 11 ..
Still, steam, improvement in. Alexander Anderson, Penn. Sept. 2 1794
Still, improvement in. John Kincaird, Penn. November 25 ..
Still, worm of sheet coper. John Taylor, Virginia June 30 1795
Stones, sawing and polishing of. Jonathan Dickerson, N. J. Jan. 9 1796
Sumac, manufacturing. Joseph Hilliard, Conn. - - May 12 1796
Salt, improvement in making. George James - Nov, 16 1796
Soap, improvement in making. John Nazro - Jan. 6 1797
Saddles, improvement in. Thomas Stickney - Nov. 16 ..
Salt, a machine for manufacturing. John Sears - Jan. 24 1799
Sawing boards, mill for. Aaron Clarke - March 30 ..
Screws, machine for cutting. David Wilkinson - Dec. 14 ..
Seeds. See *Cotton.*
Shingles and boards, improvement in making. Bill Jervis July 8 1797
Ships, machine to keep its distance at sea (reckoning.) Chester Gould - - - - - - - May 27 1799
Skins, improvement in splitting sheep. James Stanfield Nov. 16 1796
Stays, &c. improvement in for removing incurvitures or distortions of the spine. Lindin M'Kechnie - July 1 1796
Steam engine and boiler invention in. Elijah Bachus May 31 ..
Steam engine, application to the sawing, cutting, and manufacturing lumber. Robert M'Kean - - March 24 1798
Steam engine, a double. James Smallman, N. J. Roosevelt, May 31 ..
Steam (S. M. 1799.) See *Water.*
Steelyards, improvement in. Benjamin Dearborn Feb. 14 1799
Stones. See *Marble.*
Stoves, improvement in. James M'Callmont - Feb. 20 1797
Stoves, improvement in. Thomas Hirst - - March 11 1797
Stoves, improvement in. Caleb Wheaton - March 29 ..
Stove, a soap stone. Wm. Payne - - Dec. 10 ..
Stoves, improvement in. J. W. Godfrey, and Wm. Lane July 14 1798
Stoves coal, improvement in. Henry Abbott - Jan. 24 1799
Stoves and grates, improvement on. Oliver Evans - Jan. 16 1800
Stop cock. Peter Walker - - April 10 ..
Silk, cotton, worsted, engine for reducing. - - April 10 ..
Sumack, manufacturing. Comfort Hoyt - - April 7 ..
Ships and vessels, improvement in the construction of. Jeremiah Brown - - - - May 14 ..
Sheathing vessels, improvement in. Henry Guest, New Brunswick, New Jersey - - - Jan. 26 1801
Stoves, improvement in construction of. W. Henderson, Middleton, Connecticut - - Feb. 12 ..
Stove, screw and reel grain drying machine. Dav. Ellicot, Annarrundel co. Maryland - - - May 1 ..
Spoons, mode of manufacturing. T. Bruff, Washington City Sept. 14 ..
Seal and beam, moveable and suspended. S. Wallis, Boston Sept. 21 ..
Syphonic steam machine. John Poole - - Oct. 13 ..
Stills, construction of. Michael Krafft, Philadelphia Oct. 28 ..
Ship's pump, improvement in. George Clymer, Philadelphia Dec. 22 ..
Starch manufactured from potatoes. John Biddis, Philadelphia March 22 ..
Saw mill, improvement in turning the log. M. Coates, Washington county, Pennsylvania - - April 1 1802
Saw mill, improvement in. Hezekiah Richardson, jun. and Levi Richardson, Middleton, Massachusetts - - April 28 ..
Spirits, mode of improving. Burgess Allison - May 12 ..
Scientific steel yards. Lewis Du Pre, South Carolina May 12 ..
Salt, machine for manufacturing. B. Ellicot, Lancaster, Penn. May 12 ..

Steam boat, improvement in. Edward West, Fayette co. Ken. July 6 1802
Still, improvement in. William Paine - - Aug. 24 ..
Steam engine, improvement in. Samuel Briggs, jun. - Oct. 9 ..
Splitting skins, improvement in. Asa W. Chickering Nov. 29 ..
Stills, improvement in. John Staples - - - Dec. 15 ..
Salt, improvement in making. Valentine Peers - Dec. 18 ..
Stone and marble, machine for sawing. W. Palmer - Dec. 31 ..
Saw mill for cleaning cotton. G. F. Saltonstall, Fayetteville, N. C. Jan. 4 1803
Stills, improvement in. John Moffat - - - Feb. 1 ..
Spirits from starch, mode of extracting. John Naylor March 7 ..
Sea sitting chair. A. Du Buc Marentille - March 18 ..
Sub-marine passage or hollow inverted arch. J. Staples, Flushing, Long Island - - March 18 ..
Sea salt, improvement in the process of manufacturing. George Hunter - - - March 24 ..
Steam, improvement in producing. John Stevens, New York April 11 ..
Salt, expediting the manufacture of. Timothy Alden, jun. May 25 ..
Steam engine, improvement in. Samuel Morey, Rufus Graves, and Giles Richards - - - June 15 ..
Shearing woollen and other cloths, machine. L. Stanley June 25 ..
Skins, machine for pulling hair of. Nicholas Young June 28 ..
Shingles, machine for splitting and shaving. Daniel French, Middleton, Connecticut - - July 25 ..
Stills, imppovement in the construction of. L. Geanty Aug. 4 ..
Seals fur, method of preparing for hats. G. Cleveland, Hartford, Connecticut - - - Sept. 9 ..
Shelling corn, machine for. Paul Pilsbury - - Oct. 25 ..
Stills. See *Boiler.*
Spinning wheels, improvement in. Amos Minor - Nov. 16 ..
Still heads and condensors, improvement in. E. Richardson, N. P. Dec. 16 ..
Stills and boilers, improvement in. Leonard Betty - Jan. 19 1804
Stills, improvement in the construction and in the process of distilling spirits. William Wigton, Hudson, New York Jan. 30 ..
Screw mill, for breaking and grinding different hard substances. Oliver Evans, Philadeldhia - - Feb. 14 ..
Steam engines, improvement in. Oliver Evans, Philadelphia Feb. 14 ..
Setting stills and other large kettles. Israel Wood Feb. 21 ..
Smut fanning mill, improvement. Thomas Pierce, Fishkill, N. Y. Feb. 21 ..
Spinning wheel, improvement in. Wm. B. Dyer - Feb. 27 ..
Still and boiler, improvement. John Taylor - March 31 ..
Shot, improvement in the mode of making. P. Daniel, Phil. March 31 ..
Sheet tin, improvement in mbde of working. Calvin Whiting, and Eli Parsons - - - April 14 ..
Springs for windows sashes, improvement in. J. Eaton, Boston April 14 ..
Steam bath still. See *Double.*
Straw and Hay. See *Cutting*
Shelling and cleaning corn, machine for. Levi Stevens, N. Y. May 8 ..
Salt, machine for making. Ezra Weld - May 16 ..
Suspenders, improvement in. John Hooker - - Nov. 19 ..
Shingles, machine for sawing. Isaac Baker, Amherst, Mass. May 8 1805
Sod oil, for leather, method of making. G. Poyzer, Phil. May 10 ..
Sluice to convey water to wheels, &c. James Humiston, New Haven, Connecticut - - - May 10 ..
Smut Fanning mill. Thomas Pierce, Fishkill, New York May 24 ..
Setting boilers. See *Boilers*
Sulphate of pot ash, method of separating. A. M'Nitt, Geneva, New York - - - - June 15 ..
Springs for wheel carriages. Wm. Wing and H. Salisbury, Hartford, Connecticut - - - - Aug. 29 ..
Shingles, improvement in making. A. A. Kelsey, Hartford, Conn. Oct. 9 ..
Splitting skins, machine for. William Lillie, West Chester, N. Y. Nov. 9 ..

Salt, making. John Gilman Taylor - - - Nov. 13 1805
Shearing woollen or other cloths by water. Friend B. Kellog, Marlborough, Mass. - - - Nov. 22 ..
Spring pump for raising water. William Finn, Baltimore Feb. 13 1806
Suspenders. Richard Howell - - - March 5 ..
Stoves. Samuel Dickey, Oxford, Penn. - - March 7 ..
Splitting skins, machine for. Stephen Pagne - - March 31 ..
Straw. See *Cutting*.
Saw mills. Joseph Quinby, Boston - - - April 25 ..
Steelyards. John Edwards, New York - .. May 19 ..
Scale, beams, and balances. John Edwards, New York - May 19 ..
Stove. See *Cabouse*.
Shearing cloth, machine for. Beriah Smith, Washington, N. Y. May 25 ..
Salt, method of extracting from salt water. Stan. Smith, Suffolk, Massachusetts - - - - June 12 ..
Salt, method of facilitating the process of extracting from salt water. S. Smith, Suffolk, Mass. - - - June 13 ..
Spinning of rope yarn, machine for. N. Cutting, Washington City, July 14 ..
Swing cradle. Zachariah Mills, Hartford, Conn. - - July 17 ..
Sublimation of sulphur. George Barber Dexter, Boston - Oct. 9 ..
Screens for freeing grain from dirt, &c. W. Tulloch, Orange Court House, Va. - - - - - Oct. 28 1806
Suspenders. Jonas Dawson, Philadelphia - - Nov. 6 ..
Sleigh. See *Transverse*.
Swivel screw, water tight, for steam engines, &c. Abel W. Hardenbrook, New York - - - - Feb. 10 1807
Salt, mode of making. Timothy Green, New York - April 1 ..
Shingles and staves, machine for dressing. J. M'Ilvain, Chester, Pennsylvania - - - - - April 1 ..
Stumps, method of raising from the ground. A. Craig, N. H. April 15 „
Springs for carriages. See *Main*.
Steelyard. Barnabas Langdon, St. Albans', New York April 23 „
Shearing cloth, machine for. Russell Dorr, Kinderbrook, N. Y. May 8 „
Shingling the roofs of houses, &c. Thomas Young, Philadelphia May 11 „
Spring buckle, mechanical. John Green, New York - May 20 „
Stills, improvement in. S. Steward, Walpole, N. H. - June 21 „
Shearing cloth, machine for. Enoch Burt, Princeton, N. J. June 23 „
Saw mills, improvement in. Jacob Spafford, Ipswich, Mass. June 23 „
Straw, machine for cutting. J. Cleaveland, Franklin co. Penn. July 18 „
Straw, machine for cutting. Ben. Connor, Portsmouth, N. H. July 20 „
Stills, improvement in. Edward Richardson, Frederick-town Oct. 3 „
Straps for suspenders. See *Leather, &c.*
Stove pipes, mode of making. R. Wheatley and J. Beaumont, Bost. Nov. 4 „
Still, improvement in. William Thornton, Washington City Dec. 13 „
Sugar, mode of making and refining. Antoine Boucherie, Phil. Jan. 8 1808
Splitting leather and skins, machine for. William Bent, Boston Feb. 24 „
Screw press. See *Press*.
Smoothing and polishing paper, machine for. William Coolidge, Boston - - - - - April 18 „
Stripping allum dressed leather for shoe binding. Sam. Frothingham and George Harris, Middletown, Conn. - April 20 „
Spinning wheel, improvement in. T. Cruttenden, Poultney, N. Y. April 23 „
Shearing machine for cloth. Eben. Stowell, Worcester, Mass. April 26 „
Springs, thorough-brace for carriages. J. Mix, New Haven, Conn. June 17 „
Stoves for heating rooms. Allan Pollock, Boston - June 17 „
Sawing stone, wood, &c. Ditto Ditto - June 20 „
Shearing cloth, machine for. S. Stewart, Eben Hovey, and James Henderson, Pittstown, New York - - June 21 „
Springs for carriages, folding or spiral. J. Armour, jun. Balt. June 27 „
Slitting boards, planks, &c. Ezekiel Olds, Brookfield, Mass. June 29 „
Splitting skins. Isaac Cobb, Walpole, N. H. - - July 12 „
Shaving and splitting. See *Leather*.
Straw cutting machine. Elihu Hotchkiss, Battleboro', Vert. Aug. 2 „

Spinning wheels. Obidiah Sheely - - - Aug. 6 1808
Springs for carriages. Joshua Cone, Reading, Conn. - Aug. 26 ..
Stove, rarefying air. Daniel Pettibone, Roxbury, Conn. - Oct. 28 ..
Scrubbing and scouring machine for floors. Simon B. Willard, Bloomfield, Ontario county, New York - - Nov. 17 „
Stills and rotary steam engines. Sted. Adams, Hartford, Conn. Nov. 21 „
Still tubs. Isaac Bennet, Newton, Conn. - - Dec. 12 „
Shingles, machine for dressing. R. and T. Nicholson, Bairdstown, Kentucky - - - - - Dec. 13 „
Suspending. See *Carriages.*
Splitting hides, machine for. Seth Boyden, Foxboro', Mass. Jan. 7 1809
Steam boats and boilers. William Thornton, Washington City Jan. 16 „
Sawing timber in circular form. J. Lindsey, Cassanovia, N. Y. Feb. 4 „
Steam boats. Robert Fulton, New York - - Feb. 11 „
Stoves. James Fales, Newport, R. I. - - - Feb. 22 „
Scows and boats. Elihu Sherman, Lansingburg, New York March 2 „
Silk stuffs, machine for finishing. Abner Stearns, West Cambridge, Mass. - - - March 22 „
Salt, mode of making. Benjamin Wheeler, Boston - March 17 „
Saw, hand. Isaiah Jennings, New York - - March 17 „
Splitting leather and skins. John Woodcock, Worcester, Mass. May 8 „
Straw cutting machine. Roger Haskell, Burlington, New York May 25 „
Sea table. William H. Richardson, Baltimore - - June 9 „
Shutters for windows. Truman Bartholomew, New York June 17 „
Straw cutting machine. Jacob Canfield, Morristown, N. J. June 26 „
Shearing cloth. David Dewey, Poultney, New York - June 27 „
Spiral float wheel mill. Fitch Ives Lisle, New York - July 5 „
Spiral truss. See *Truss.*
Shingles, machine for riving and shaving. Jacob Balcomb, Reading, New York - - - - July 15 „
Shot, manufactuaing. John W. Jope, Philadelphia - July 17 „
Screws, machine for cutting wood. A. Stowell, Worcester, Mass. July 18 „
Stump lifting machine. David Stone, Clearmont, N. H. July 27 ..
Saw for wood. James Hamilton, Brookfield, Mass. - July 23 ..
Screw auger, double podded centre. E. L'Hommedieu, Saybrook, Connecticut - - - July 31 ..
Spirits and wines, mode of ameliorating. Wm. Thornton, Washington, District of Columbia - - Sept. 1 ..
Steam engine, improvement in the. Daniel French, N. Y. Oct. 12 ..
Shingles, machine for splitting. Joseph Coppinger, Baltimore Oct. 31 ..
Spoons, machine for manufacturing. Isaiah Bisbee, Bath, Mass. Nov. 20 ..
Stills, cast iron. Joseph Coppinger, Beaufort, N. C. Nov. 21 ..
Seine. See *Fishing.*
Sawing machine. E. Odds and Phiney Upham, Worcester, Mass. Dec. 21 ..
Steam engines and boilers. John Stevens, New York - Jan. 3 1810
Soal leather, machine for compressing. J. Elliot, Sharon, Conn. Jan. 18 ..
Sawing timber. Elisha Cook, Bethlehem, Mass. - - Jan. 20 ..
Sheaves, method of making. Enoch C. Toppam, Essex, Mass. Feb. 12 ..
Stove pipes. John Parkhurst, jun. Cheshire, N. H. - Feb. 13 ..
Sawing timber. John Sweet, Bethlehem, Mass. - - Feb. 15 ..
Signals for vessels. Nath. Shaler, New York - - Feb. 21 ..
Saw mill. Abel Wright, Canaan, New York - - March 7 ..
Spring bolt and key for windows. R. Smith, Norwich, Conn. March 8 ..
Sawing Timber. A. Jones, jun. Bethlehem, Mass. - March 14 ..
Spinning wheel. Winsor Drury, Brookfield, Mass. - March 19 ..
Saw, driving whip. Joseph Coppinger, Frederick, Georgia March 19 ..
Salt, manufacturing. Benjamin Wheeler, Boston - March 28 ..
Screw. See *Grist Mill.*
Spinning flax. Alpheus Webster, Green co. New York March 31 ..
Still, perpetual. Robert Gillespie, Seneca co. New York April 2 ..
Stone turner, marble. David Clark, West Stockbridge, Mass. April 9 ..
Saw mill. Joseph Ennals, New Market, Md. - - April 10 ..
Spinning wheels, the heads of. Amos Miner, Marcelles, N. Y. April 11 ..

Sawing wood, machine for. Roger Smith, Norwich, Conn.	April 24	1810
Spring tree saddle. David C. Mosely, Boston - - -	April 25	..
Screws, casting metal. John Nicholson, Herkimer, New York	April 28	..
Sash stuff, machine for trying. Eben. Basford, Livermore, Mass.	April 28	..
Sawing boards, machine for. O. Judd, jun. London, Mass.	May 1	..
Saw mill to be worked by hand. George Harris, Philadelphia	May 3	..
Shelling corn. John Heavin, Frederick co. Md. - -	May 8	..
Shearing cloth. Eleazer Sprague, Danbury, Conn. -	May 9	..
Shearing cloth. Herman Mathews, Delaware - -	May 15	..
Suspenders. James Davis, Philadelphia - -	May 18	..
Shearing cloth. Beriah Swift, New York - -	May 28	..
Saddle-trees, machine for making. Ruben and E. Fairchild, Fairfield, Conn. - - - - -	June 1	..
Ship building. See *Boat, &c.*		
Splitting mill. Phineas Dow, Boston - - -	July 12	..
Shaving shingles, machine for. Abiel A. Cooley, Bolton, Conn.	July 13	..
Smoothing linen, machine for. W. P. Smith, and Jacob Odell, Durham, New Hampshire - -	July 17	..
Shaving shingles. Daniel Newel, Saratoga, New York	July 26	..
Steam, mode of producing. J. H. Williams, Brunswick, N. J.	July 26	..
Steam, propelling boats by. Ralph Letton, Albany, N. J.	Aug. 29	..
Shovels, machine for swaing. Upton Reid, Hartford, Md.	Aug. 31	..
Smoke conductor. John C. Teall, New York -	Sept. 11	..
Starch, mode of making. E. Perkins, Shrewsbury, New Jersey	Sept. 16	..
Steering vessels. John Philips and James Smallman, Phil.	Sept 18	..
Smoked beef, machine for cutting. Seth R. Kneeland	Oct. 9	..
Sawing machine. David Parmelie, Fairfield, Conn.	Oct. 25	..
Skins, machine for splitting and shaving. P. White, Worcester, Massachusetts - - -	Nov. 1	..
Stoves. Augustus Graham, Fredericktown, Maryland	Nov. 6	..
Steam still and water boiler. Phares Bernard, Whitestown, N. Y.	Nov. 17	..
Steam, for cooking by. Hosea E. Potter, Otsego, New York	Nov. 20	..
Springs, wooden, for carriages. W. Robinson, Wilmington, Del.	Nov. 27	..
Still, perpetual. John James Giraud, Baltimore -	Dec. 22	..
Sawing machine, improvement in. Ezekiel Olds and Pliny Upham, Brookfield, New York - - -	Dec. 26	..
Steam still and boiler. P. M. Hackley, Kerkimer co. New York	Jan. 11	1811
Steam pump. Phares Bernard, and T. Soper, Whitestown, N. Y.	Jan. 16	..
Steam boat, chain float. Michael Morrison, Boston	Jan. 17	..
Sleigh. Augustus Day, Bordentown, New Jersey -	Jan. 19	..
Salts. See *Evaporation.*		
Spirits. See *Corn Stalks.*		
Steam boats. Robert Fulton, New York	Feb. 9	..
Steam still. Samuel Bacon, Lanesborough, Massachusetts	Feb 9	..
Saw mill, descending. S. Belkmap and S. Merril, Geo. To. D. C.	Feb. 15	..
Steam engine. J. Stubbs, and Nath. Parsons, Chilicothe, Ohio	Feb. 25	..
Saw mill. Miles H. Abbot, Bucks co. Pennsylvania	Feb. 26	..
Starch, &c. from vegetable matter. E. Perkins, Shrewsbury, N. J.	Feb. 26	..
Shearing cloth. Ezra Willmarth, Rumney, Mass. -	Feb. 28	..
Screws, machine for cutting wooden. R. Hancock, sen. and Edward W. Carr, Philadelphia - -	March 1	..
Stove. William Watson, Weymouth, New Jersey	March 2	..
Shearing, cloth. Benjamin Cummings, Palmer, Mass.	March 2	..
State, application of. W. Sheldon, jun. Springfield, Mass.	March 2	..
Shearing, cloth. George C. Killog, New Hartford, Conn.	March 4	..
Sausage meat, machine for cutting. G. Neff, Dauphin co. Penn.	Mar. 19	..
Stave and shingle machine. W. Bailey, Nelson co. Ken.	April 10	..
Saw mills. Oliver Evans Philadelphia - -	April 15	..
Stove kitchen. J. Sibley, New York - -	April 25	..
Straw plait, machine for pressing. D. Atherton, Providence, R. I.	April 26	..
Shearing cloth. Jesse Molleneuse, Hempstead, New York	April 30	..
Shearing machine. Eleazer Hovey, Canaan, New York	May 1	..
Steam still. John James Jerand, Baltimore	May 15	

Steam engine for propelling. John Stevens, New York — May 21 1811
Saw mill. Marshall Lewis, Shenango, New York — May 24 ..
Suspenders. Henry Burk, Bucks county, Pennsylvania — May 25 ..
Suspenders, spring double. Benjamin Wolcot, Danbury, Ohio — May 29 ..
Shaving shingles, machine for. Daniel Parker and John Sandford, Sharon, Connecticut — May 30 ..
Shears for shearing woollen. William Stillman, Westerly, R. I. — June 11 ..
Steam kitchen for baking, &c. Samuel Smith, Herkimer, N. Y. — June 11 ..
Staves, &c. machine for shaving and jointing. Barnabes Langdon and William Mowry, Washington county, New York — June 20 ..
Steam stove. Josiah Noyes, Herkimer county, New York — June 21 ..
Spinning and winding rope yarn. C. Brig and P. Schermerhorn — July 2 ..
Steam engine. See *Pendulum.*
Sacket and sand shovels, machine for. Jonathan Righter, Downington, Pennsylvania — July 23 ..
Still and condencer. Richard Seely, Newark, New Jersey — July 25 ..
Steam carriages. Charles Reynolds, East Windsor, Conn. — Aug. 21 ..
Stills and boilers. Jacob Decker, Green Shenango, co. N. Y. — Sept. 2 ..
Spinner. See *Pleasant.*
Stills. Henry Willmer, Lancaster, Pennsylvania — Sept. 19 ..
Steam boats. James Rogers, Albany, New York — Sept. 27
Stoves. Thomas Power, New York — Sept. 27 ..
Salt, making fine from course. C. W. Sellars, Alexandria, D. C. — Oct. 11 ..
Sulphuric acid. Benjamin Bell, Boston — Nov. 7 ..
Steam engine. Daniel Dod, New York — Nov. 29 ..
Steam kitchen. John Bouis, Baltimore — Jan. 6 1813
Steel, converting pig iron into. Enoch Leonard, Canton, Mass. — Jan. 6 ..
Seine. See *Net.*
Save all for saw mills. J. Hart and Lester Fling, Cheshire, N. H. — Jan. 18 ..
Steam engines. J. Curtis and Royal Yeamans, Washington — Feb. 8 ..
Stove, cooking. Jonathan Low, Fitchburg, Mass. — Feb. 24 ..
Stove. N. Lloyd, Philadelphia — Feb. 29 ..
Steam boat to be sculled. Joseph Hunt, East Chester, N. Y. — March 11 ..
Spinning machine. Noel Jones, Madison co. New York — March 14 ..
Shingles, machine for dressing. J. Heavin, Montgomery, Va. — March 16 ..
Spinning machine. Stephen Clements, Hartford, Ver. — March 16 ..
Steam engine, propelled by poles. M. Battle, Herkimer, N. Y. — March 27 ..
Still, wooden, &c. R. W. Adams, Marlboro', Vermont — March 27 ..
Salt manufacturing. Ambrose Dudley, King William's co. Ver. — March 31 ..
Steam boat, setting. John Evelett, Boston — April 23 ..
Still head, quilted clothing for. C. Jenks, East Windsor, Conn. — April 25 ..
Still head. C. Jenks, East Windsor, Conn. — April 25 ..
Shearing machine. Stephen Tredwell, Reading, Conn. — April 27 ..
Scale board, machine for cutting. J. Carrington, Litchfield, Conn. — Apr. 27 ..
Spinning machine. Burgiss Allison, Philadelphia — April 27 ..
Spinning wheel. James Shaw, Herkimer co. New York — April 27 ..
Sawing machine. Russel Canfield, Philadelphia — May 1 ..
Saw mill, cross cut. Sam. Kennedy Gore, Bradford co. Penn. — May 4 ..
Spinner. See *Linen.*
Steam engine. Daniel Dodd, Elizabeth-town, New Jersey — May 12 ..
Screws, machine for cutting. E. Hazard and J. White, Phil. — May 15 ..
Smut, machine for casting. Dan. Tomlinson, Brookfield, Conn. — May 20 ..
Stove, fire proof stone. Abraham H. Quincy, Boston — May 21 ..
Saw mills. Webb Hart, Cheshire, Conn. — May 26 ..
Shearing cloth, machine for. Walter Kennedy, Frankfort, Ken. — June 12 ..
Stove for heating water, &c. T. Woolson, Amherst, N. H. — July 3 ..
Shearing and laying the knap of cloth. Lemuel Dickerman, Schaghticoke, N. Y. — July 18 ..
Steam engine, horizontal. Jacob W. Sexton, Burlington N. J. — July 18 ..
Spirits, purifying of. Abiel Pease and Sam. Bestor, Enfield, Conn. — July 27 ..
Steam engine. Alexander Anderson, Philadelphia — Aug. 21 ..
Steam washer. James Truman, Philadelphia — Aug. 21 ..

Steam machine to keep a wheel in motion. M. B. Parmelee, Newtown, Conn. - - - - Aug. 25 1813
Shearing cloth. Gersham Bostwick, Brookfield, Conn. - Sept. 28 ..
Saw mill worked by animal power. E. Owen, Prince George's county, Va. - - - - Oct. 1 ..
Shearing cloth. George Booth, Poughkeepsie, New York Oct. 13 ..
Steam boats and steam engines. Dan. Large and F. Grice, Phil. Nov. 12 ..
Setting saws. John Sommer, Franklin, Penn. - - Nov. 16 ..
Sulphur sublimating. Geo. Robertson, Elizabethtown, N. J. Nov. 16 ..
Spinning cotton. Nehemiah Giles, Fitchburgh, Mass. - Nov 19 ..
Sugar candy ware. Laurence Astolfi, Philadelphia - Nov. 20 ..
Stills. Heram Whitcomb, Cornwall, Conn. - - Nov. 24 ..
Stoves, open. J. Howe and W. Lankester, Boston - Nov. 25 ..
Snuff cutter or grater. John B. Partarieu, New York - Nov. 30 ..
Ship building. Frederic Tudor, Boston. - - Dec. 17 ..
Shingles John Loomis, Geneva, New York - - Dec. 24 ..
Screws, machine for heading. Abel Stowell, Worcester, Mass. Feb. 4 1813
Stove and boiler. Gabriel N. Philips, Goshen, New York Feb. 6 ..
Stove. See *Kitchen.*
Stoves. Alfred James, Hartford, Conn. - - March 1 ..
Saw mills. Hiram Whitcomb, Cornwall, Conn. - March 2 ..
Sifting meal. Daniel Hedman, Brook Haven, New York March 8 ..
Screw shanks. Jacob Perkins, Newburyport, Mass. - March 23 ..
Stoves for boiling. Henry Abbot, Philadelphia - March 30 ..
Stoves. George Warrall, Philadelphia - - March 30 ..
Steam engines. James D. Russell, Washington, N. C. - April 10 ..
Spinning and roving machine. S Conestock and Moses Pike, Harrisburg, Penn - - - April 15 ..
Screws, machine for cutting. Jacob Scott, Ramapo Cove, N. Y. May 4 ..
Shearing machine, horizontal. Thomas Blanchard, Sutton, Mass. May 4 ..
Shell grenade and rocket. James Lloyd, Adams county, Penn. May 11 ..
Shot and bullets, machine for. Peregrin Williamson, Baltimore May 12 ..
Salt, machine for boiling, &c. John J. Cabell, Lynchburg, Va. May 28 ..
Steam engine. S. Briggs and Andrew Steel, Baton Rouge, Lou. May 29 ..
Shingles, machine for making. Otis Paine, Foxboro', Mass. June 18 ..
Spinning cotton. Luther Bissel, Justus Hinman, Luke G. Hinman, and Benoni Gains, Hartwick, New York - - June 19 ..
Still. John James Giraud, Baltimore - - June 26 ..
Spoons. Jacob Perkins, Newbury Port, Mass. - - June 29 ..
Saw mills. Luther Bissell, Hartwick, New York - - July 3 ..
Spinning machine, improvement in. N. Foster, Fleming, Ken. July 8 ..
Stills. Charles F. Foster, York, Penn. - - July 12 ..
Screws, machine for finishing heads of. Abel Stowell, Worcester, Massachusetts - - - - July 15 ..
Shot, tubulated cylinder. James M. Ludlum, New York - Aug. 3 ..
Still, wooden. John James Giraud, Baltimore - - Aug. 3 ..
Spinning wheels. Dan. Hurlbut, Aurelius, New York - Aug. 4 ..
Ships, boats, &c. constructing. Ben. Connor, Portsmouth, N. H. Aug. 26 ..
Stills setting. A. Gibbs, Lancaster, Penn. - - Aug. 30 ..
Shingles, sawing. Willard Earl, Hubbardston, Mass. - Sept. 3 ..
Steam engine. S. H. Long and G. F. Hauto, Germanstown, Penn. Sept. 3 ..
Skins, splitting. William Bent, Boston - - - Sept 9 ..
Shearing cloth, machine for. Silas Hills, Hudson, New York Oct 22 ..
Stocking loom. Eben. Herrick, Stockbridge - - Oct. 22 ..
Stone, machine for sawing, &c. S. B. Willard, Bloomfield, N. Y. Nov. 8 ..
Stove spiral. Robert Roy, Warwick, New York - Nov. 13 ..
Steel, made from card teeth, &c. E. Jenks, Colebrook, Conn. Nov. 13 ..
Still, &c. condensing tub. James Wheatley, Faquier co Va. Nov 13 ..
Screws, machine for cutting. John Humes, Richmond, Va. Dec. 30 ..
Sleigh shoes steel plated. Salmon Hunt, Canaan Conn. Dec. 30 ..
Screws, machine for making. Abner Burnham, and Thomas S. Barnum, Sharon, Connecticut - - Dec. 31 ..
Steam engines. Francis B. Ogden, Essex co. New Jersey Dec. 31 ..

Slates, machine for polishing. John Coleman, Baltimore Dec. 31 1813
Steelyards, and scales. Zina Phinney, Greens co. N. Y. - Jan. 6 1814
Shearing machine. E. Durrin, Wethersfield, Vermont - Jan. 21 ..
Salt manufacturing. William J. Lewis, - Feb. 1 ..
Steam boats. Daniel Dodd, Mendham, New Jersey - Feb. 2 ..
Stove, eleven plate. Charles Postley, New York - March 7 ..
Screws cutting, &c. D. Stearns, Battleboro, Windham, Ver. March 7 ..
Sawyer expeditious. John H. Morison, Boscowen, N. H. March 18 ..
Spinning family billy and jenny. E. Smith, Paris, N Y. - March 23 ..
Steam still, perpetual. J. J. Giraud, Baltimore - March 24 ..
Spinning wheel. H. Wright, and O. Roberts, Bristol, Conn. March 26 ..
Shearing cloth. I. Sanford, Providence, R. I. - March 26 ..
Steam tow boat, &c. John L. Sullivan, Boston - - April 2 ..
Salt, manufacturing. Thomas Hord, Caroline co. Va. - April 8 ..
Stills. Ezra Talmage, Richmond, Va. - - April 9 ..
Steam engines, &c. John Dowers, jun. Philadelphia - April 23 ..
Smoke driver. See *House Warmer.*
Shoes, machine for cutting. Benjamin Miller, Philadelphia May 9 ..
Still and condenser. Ben. Hall, New Haven, Conn. May 13 ..
Stove, baking, boiling, &c. E. B. Coleman, New Haven, Conn. May 13 ..
Stove, family. Joseph Tuly, Frederick co. Va. - - May 17 ..
Salt, apparatus for making. W. and J. D. Hawkins, Raleigh, N. C. May 26 ..
Scythes, manufacturing. Luther Dudley, Sutton, Mass. - May 27 ..
Screws, &c. manufacturing. Aaron Broad, Litchfield, Conn. June 6 ..
Salt, making. John J. Cabell, Lynchburg, Va. - - June 10 ..
Stairs for bridge and ferry. David Dunham, New York - June 28 ..
Saddle trees. Chauncey Stiles, jun. Philadelphia - June 28 ..
Spinning machine, portable. Burgiss Allison, Burlington, N. J. June 28 ..
Steam engines. Charles Reynolds, East Windsor, Conn. - July 23 ..
Sulphurate acid, cement for ceilings. And. Scott, Newburn, N. C. Aug. 15 ..
Spooms making. James Ridgeway, Groton, Mass. - Sept. 22 ..
Salt manufacturing. Peter Sarchet, sen. Cincinnati, Ohio Sept. 27 ..
Suspenders. Martin Nelson, Philadelphia - Oct. 17 ..
Shingles, sawing. Salmon Fuller, Indianna - - Nov. 14 ..
Steam boats. Nicholas J. Roosevelt, N. J. - - Dec. 1 ..
Scythe, farmers' carriage. Theophilus Eaton - - Dec. 2 ..
Scythe, circular. John and Adam Rhodes, Union Township, N. Y. Dec. 6 ..
Shearing machine. David Dewey, Poultney, Vert. - Dec. 7 ..
Steam, or stove still. John Stone, jun. Worthington, Mass. Dec. 8 ..
Steam boats, improvement in. Wm. Thornton, Washington, D. C. Dec. 23 ..
Saw mills. Elisha Morgan, Clinton co. New York - Jan. 24 1815
Stills. Robert Gillespie, Seneca, New York - - Jan 31 ..
Sleigh shoes, cast iron. Sylvanus Tousley, Manlius, New York Feb. 7 ..
Screw cutters circular. Joshua Witherle, Boston - Feb. 9 ..
Still boiler and worm. Thomas Weston, Peachum, Vert. Feb. 13 ..
Shelling corn and thrashing wheat. Zina Phinney, Cairo, N. Y. Feb. 16 ..
Saw mills. Henry Quin, Huntington, N. J. - - Feb. 21 ..
Spinner, family. John Brown, Providence, Rhode Island Feb. 24 ..
Stop cock. John Morris, New Haven, Conn. - - March 1 ..
Screws, machine for cutting and heading. John Mason March 30 ..
Stoves. Wm. T. James, Union Village, Washington, N. Y. April 26 ..
Stoves Charles Postley, New York - - April 26 ..
Steam engine. Borden Wilbor, Whitestown, New York April 28 ..
Shears for shearing cloth. Wm. Stillman, Westerly, R. I. April 15 ..
Stages, improvement in the body of. J. Smith, Lancaster, Penn. April 29 ..
Stoves. Aaron Lane - - - - May 11 ..
Spindle for spinning. Asa Jillson, Dorchester, Mass. - May 27 ..
Spruce beer, brewing. William Bezeau, Philadelphia - June 13 ..
Steam engine. Samuel Morey, Boston - - July 14 ..
Scale beams, &c. Allen Pollock, Boston - - July 31 ..
Ship building. D. M. Randolph, Richmond, Va. - Aug. 2 ..
Steam engine. Junia Curtis, Baltimore - - - Aug. 8 ..
Shoemaker's bench. Joel Soper, Windsor, Conn. - Aug. 12 ..

Spinning machine. Sylvanus Baldwin, Boston - - Aug. 18 "
Steam engine. Mathew Cluff, Norfolk, Va. - - Sept. 1 "
Steam stove. Erastus Warner - - - Sept. 12 "
Spinning wool. W. Ayres and J. Cockran, Durham, Vert. - Oct. 6 "
Screw wheel for propelling. James Widdefield, Philadelphia Oct. 11 "
Saws, setting the teeth of. John Russell Brooke, Va. - Oct. 14 "
Saddles. John Bryan, Lexington, Ken. - - Oct. 24 "
Saw-mill, elevating. Samuel Brewster, Middlesex, N. J. - Oct. 30 "
Stove; economical. John Graham, New York - - Nov. 9 "
Steelyards. Samuel Hills, Lincoln, Mass. - - Dec. 27 "
Saw-mill, wind. Jesse Springer, Cape May, New Jersey Dec. 27 "
Stove. Comfort Barney, Warren, R. I. - - Dec. 27 "
Saw mills. Thomas Cohoon, Washington City - - - Jan. 5 1816
Stills. Joseph White, Baltimore - - - Jan. 15 "
Steam engines. William Shultz, New York - - Jan. 26 "
Syphilis, cure of. Joseph Moser, Philadelphia - - Jan. 26 "
Salt, manufacturing of. Wm. J. Lewis - - Feb. 1 "
Sock, Columbian. Joseph Mason, Cunningham, Mass. - Feb 8 "
Spool frame. Elihu Robinson, Augusta, Mass. - - March 6 "
Shoemaker, the. Gideon Drake, Windsor, Conn. - March 14 "
Steam engines. John Stevens, Hoboken, New Jersey - March 14 "
Sliders for steam engines. Ditto Ditto - March 16 "
Shelling corn, machine for. Jacob Fuller, Rockland, Va. March 19 "
Salt boiling. Alex. Black, Barnstable, Mass. - - April 4 "
Spinning wheel. E B. Sandford, Newtown, Conn. - April 11 "
Steam, propelling boats by. William Tatham, Washington City, April 18 "
Shearing cloth. H. Osborn and Wm. L. Frazer - - April 25 "
Sugar purifying and refining. B. Edme Verjon, Washington City, Apr. 26 "
Stoves, cooking. Christ. Hoxie, Hudson, New York - May 3 "
Steam engine. Enoch Burt, Elizabeth-town, New Jersey May 12 "
Steam, extracting spirit of turpentine by. H. Kelley, Brooklyn, N. Y. May 17 "
Spinning wool and cotton. Peter Paddleford, Lyman, N. H. May 18 "
Sawing shingles. Oliver Merritt, Berkhamsted, Conn. - May 22 "
Spring saddle. Charles Klasson, Baltimore - - May 22 "
Shearing cloth, machine for. John D. Smith, Fredericktown, Md. May 24 "
Stove. Eliakim Cory, Milton, N. C. - - - May 30 "
Steam, generating. Joseph Hawkins, New York - June 14 "
Stills. Montgomery Stevens, New York - - June 17 "
Steam engine. Enoch Burt, Elizabeth-town, New Jersey June 25 "
Spooling, winding, and bobbin machine. C. Flagg and O. Wright, Hudson, New York - - - June 29 "
Sheaves, machine for moulding bushes for. T. R. Walworth, Patterson, New Jersey - - - July 15 "
Spinning machine. Zaccheus Wheeler, Richmond, N. H. July 18 "
Steam engine. John Hilton, Somerset, Maine - Aug. 22 "
Stocking loom. Aaron Porter, Queensbury, New York - Aug. 22 "
Spinning cotton and wool, machine for. J. Sprinkle, Wythe, Vert. Aug. 23 "
Stoves. Thomas and Isaac Power, Hudson, New York - Aug. 31 "
Stoves. Henry F. Leibenau, New York - - Sept. 7 "
Suspenders. Joseph Barnett, Philadelphia - - Sept. 14 "
Spinning and quilling machine. Jacob Richardson, Scipio, N. Y. Oct. 16 "
Steam engine. Samuel Fairlamb, Marietta, Ohio - - Oct. 24 "
Saw, radical. Ditto Ditto - - July 5 "
Suspenders, buckle for. Orange Webb, New York - July 5 "
Saw gates. Samuel Herrick, Clermont co. Ohio - - July 21 "
Screw, cutting wood and metal. J. Andrews, Dinwiddie co. Va. Aug. 11 "
Spinning and reeling machine. Caleb Shelledeay and George M. Casion, Shelbyville, Kentucky - - Oct. 24 "
Salt works, plan of erecting. D. Thatcher, Tuckerton, N. J. Oct. 24 "
Steam engine. James Rumsey, Kentucky. - - Nov. 15 "
Steam, the machinery for. James Rumsey, Kentucky Nov. 15 "
Steam engines. Edward Rumsey, Kentucky - Nov. 15 "
Scale beams. John Edwards, New York - - Nov. 19 "

Stoves, rarefied chimney. G. Rogers, Northampton, Mass. Nov. 18 1816
Stoves. Anthony B. Martin, Hagerstown, Maryland - Nov. 26 "
Steam, engines rotary. Isaiah Jennings, New York - Jan. 17 1817
Salt water, obtaining. D. and J. Ruffner, Kanawha, Vert. Jan. 18 "
Straw cutting machine. E. Hotchkiss, Battleboro, Virginia Jan. 13 "
Scythe factory. Benjamin and John Tyler, Claremont, N. H. Feb. 1 "
Stoves, cooking. A. Swain, Hudson, New York - Feb. 1 "
Steam engine for raising water. William Bailey, Nelson co. Ken. Feb. 4 "
Steam engine rotary. Nathan Read, Boston - Feb. 21 "
Steam applied to propel carriages. B. Langdon, Whitehall, N. Y. Feb. 22 "
Spinning wheel James Wright, Campbell co. Virginia Feb. 28 "
Straw cutting machine. Samuel Whitlock, Vermont - March 3 "
Steam engine. John L. Sullivan, Boston - - March 24 "
Spinning wheels. Nathan Lewis, Canandaigua, N. Y. - March 29 "
Stove. Joseph P. Simpson, New York - - April 5 "
Saw mill. David and Minor Fountain, East Shore, Md. - April 5 "
Stoves. Ephraim Treadwell, Boston - - - April 26 "
Spinning wheel. Timothy Cruttenden, Covington, New York May 12 "
Sash work, machine for striking all kinds of. J. Bliss, Somers, Conn. June 17 "
Slitting and sawing machine. J. Jacquith, Sherburn, Mass. June 26 "
Saw band or belt. Adam Stewart, Baltimore - - July 5 "
Sawing veneering, machine for. Do. Do. - - July 5 "
Screw machine. Phenehas Dow and Daniel Treadwell, Boston Aug. 8 "
Straw cutting machine. W. Ayers and H. Gay, Windsor, Vert. Aug. 13 "
Steam engine. John Heavin, Maryland - Aug. 27 "
Sugar mill. Jean Baptiste, Aveilhe, New York - Aug. 28 "
Steam as propelling power to mills. S. Briggs, New Orleans May 28 "
Steam engine. Israel J. Richardson, Geneva, New York Oct. 13 "
Salt, manufacture of. Everard Hall, Princess Ann, Virginia Nov. 14 "
Steam boilers. Royal Yeamans, Baltimore - Nov. 20 "
Stoves, retaining the heat of. William Phoebus, New York Nov. 28 "
Straw cutting machine. Arnold Brayton and Henry C. Green, Cheshire, Massachusetts - - Dec. 5 "
Stove, or fire-place and oven. John Rice, Hartland, Vermont Dec. 6 "
Stains, method of taking out. Aaron Hall, Boston - Dec. 31 "
Saw mill, improvement on the. Daniel Collins, Genessee co. N. Y. Jan. 6 1818
Straw cutting machine. Alpheus Bigelow, Weston, Mass. Feb. 13 "
Sand, machine for collecting. Rufus Elliot, Georgetown, D. C. Feb. 14 "
Steam engine, wheel regulator for the. John L. Sullivan, Boston Feb. 28 "
Steam engine, supply chamber for the. John L. Sullivan, Boston Feb. 28 "
Steam engine, boiler for the. John L. Sullivan, Boston Feb. 28 "
Smoke, machine for consuming. John Eoff, Baltimore March 5 "
Stoves and fire places. John H. Lotz, Salisbury, Conn. March 18 "
Stoves. Burgess Allison, Burlington, New Jersey April 10 "
Steam engine rotary. Beardsley Hendryx and Halstead Price, Springfield, Otsego county, New York - April 13 "
Stoves. Robert and John Mount, New York - April 11 "
Straw cutting machine S. A Sherwood, Poughkeepsie, N. Y. April 11 "
Stove and cooking. John Adams, Hudson, New York April 16 1818
Spinning wheel. Z. T. Bradley, Gt. Barrington, Mass. April 21 "
Steam engines. Joseph Eve, Augusta, George-Town May 28 "
Sweeping chimneys. Francis A. Everard, New York May 28 "
Springs for saddles. Nathan Mixer, Keen, New Hampshire May 28 "
Shoemakers' bench. John Greenhold, Westminster, Frederick county, Maryland - - - June 9 "
Sub-marine ploughing. J. Hendrick, Middlesex co. Mass. June 10 "
Spinning and roping machine. John Brown, Providence, R. I. June 12 "
Sugar, cane, machine for grinding. John Gotlieb Brethler, New Orleans - - - - - June 13 "
Stone, machine for sawing. John Sullivan Dwight, Boston June 27 "
Salt, manufacturing by freezing. G Munger, New Haven, Conn. June 23 1818
Spring Saddles. Samuel M. Leaming, Lexington, Ken. July 6 "
Steam engine. William Church, Baltimore - July 11 "

Stove for cooking. James Lamb, Hartford, Connecticut July 17 1818
Stoves, improvement in his patent. Aaron Lane, New York Sept 15 ..
Sweeping chimney, machine for Aaron Lane, New York Sept. 22 ..
Stove pipes, improvement in making. John Cudlip and George Price, Baltimore - - - Nov. 18 ..
Sample box. George P. Oakly, Poughkeepsie, New York Nov. 25 ..
Steam engine, improvement on Morey's. J. L Sullivan, Boston Dec. 10 ..
Sweeping chimnies. William Hall, New York - Dec. 19 ..
Sinking wells, &c. Tobias Ruffner, Kanawha, Virginia Dec. 22 ..
Spinning wheel. Henry Wilson, Ontario county, New York Dec. 29 ..
Spindle and bobbin for cotton. W. B. Leonard, Fishkill, N. Y. Jan. 9 1819
Shooting by steam. Samuel Morey, Orford, N. H. - Jan. 19 ..
Stoves, by leading the flame through wire gauze. Samuel Morey, Orford, New Hampshire - - - Jan. 20 ..
Stirrips for saddles. Daniel Adams, Keene, Chesshire co. N. H. Feb. 13 ..
Shovels for barns, &c. John Brower, Berks co. Penn. Feb. 19 ..
Steel yard. Jacob Bartholomew, Middlebury, Vermont Feb. 27 ..
Straw cutting machine. Giles Dayton, jun. Springfield, Mass. March 18 ..
Seat saddles, elastic. W. Harper, Nashville, Tenn. - April 2 ..
Spinning wheel head. J. Mudge and Milo Hatch, Cherburne, N. Y. April 10 ..
Spring for carriages. Geo. Norton Reynolds, Charleston April 30 ..
Spinning frame. Paul Moody, Boston - - May 6 ..
Sugar and molasses from wheat. J. Wiseheart, Wayne, co. Indian. May 25 ..
Steam engine, rotary. Antoine Batley, New York - May 26 ..
Steam engine, rotary. Robert Thomas, Richmond, co. N. C. May 29 ..
Snuff, manufacturing. Thomas Baldwin, New Castle, Del. June 22 ..
Saddles, improvement in. Peter Dixon, Philadelphia - July 16 ..
Spiral wheels for mills. Z. Hiatt, Wayne co. Indianna - Aug. 20 ..
Sausage meat, machine for cutting. George B. Craft, Redstone, Fayette co. Penn. - - - - Oct. 9 ..
Ship's buttons, composition for. W. Russell, jun. N. Bedford, Mass. Nov. 8 ..
Shoeing sledges, &c. William Barton, New York Dec. 13 ..
Screw archimedian. James Cooper, Augusta, Virginia - Dec. 14 ..
Square, carpenter's. Silas Hawes, Bennington, Vermont Dec. 15 ..
Straw cutting machine. Lemuel Green, Green co. Georgia Dec. 21 ..
Steam engine, improvement in. Charles Lee, Ross co. Ohio Jan. 22 1820
Spruce beer, improvement in. John William, Cambridge, Mass. Feb. 17 ..
Saddles, elastic seat. Peter H Martin, Nashville, Tenn. Feb. 23 ..
Stove cooking. Israel Keyes, Putney, Vermont - - Feb. 23 ..
Ship building. Abel Brewster, Hartford, Conn. - - March 6 ..
Sugar, improvement in making. Henry Fry, Harrisburg, N. Y. April 6 ..
Stoves, stills, and boilers, improvement in. John James Giraud, Baltimore - - - - April 19 ..

T.

Thrashing of grain and corn. Samuel Mulliken, Phil. March 11 1791
Thrashing of wheat, &c. Wm. Thomson, Richmond, Va. Aug. 2 ..
Thrashing of grain. William Hodgson, Virginia - April 28 1794
Thrashing machine. James Wardrop, Ampthill, Virginia Nov. 5 ..
Thread, spinning and twisting. Obad. Herbert, Mount Pleasant county, N. J. - - - - Jan. 28 1792
Tobacco, manufacturing. C. Batterman, J Caldwell, Albany, N. Y. Jan. 26 1793
Tallow-lamp. See *Lamp.*
Teeth, improvement in extracting. Thomas Bruff - July 1 1797
Thrashing grain, improvement in. Richard R. Elliot Nov. 16 ..
Thrashing wheat, &c. machine for. Thomas C. Martin June 2 1798
Tide, regulation of the other spiral wheel. John Martin April 27 ..
Time-keepers. See *Clocks.*
Tobacco, improvement in cutting. Apollos Kinsley - Aug. 12 1797
Tobacco, machine for cutting. Peter Lorillard - June 28 1800
Telegraph. Jonathan Grout, jun. Belchers-town, Mass. Oct. 24 ..
Tournequet axle. Joseph Strong - - Jan. 29 1801
Time-piece, improvement in. Simon Willard - Feb. 8 1802

Thrashing and cleaning wheat, improved machine for. Ezekiel Miller - - - - July 19 1802
Trigonometrical quadrant, improvement in. James Templeton Aug. 17 ..
Tide power obtained from its rising and falling. John Staples, Flushing, L. I. New York - - March 18 1803
Time pieces, improvement in. David F. Launcy, Philadelphia March 21 ..
Thrashing machine. Jedediah T. Turner - Oct. 19 ..
Twilling machine for pricking leather for cards. Phiney Earl, Leicester, Massachusetts - - Dec. 6 ..
Thrashing and cleaning grain, machine for. Thomas Barnett Feb. 21 1804
Twisting mill. See *Spinning.*
Tow for paper, machine for preparing. Abraham Frost March 19 ..
Tablets, composition for. Amos D. Allen - May 10 ..
Thimbles, improvement in making. A. Spencer, N. London, Conn. June 8 ..
Thrashing machine, improvement in. James Deneale, Pr. Wilcounty, Virginia - - - Nov. 20 ..
Transporting carriages. See *Carriages*
Tin-ware, mode of manufacturing. B. Langdon, St. Albans, Vert. May 4 1805
Tiles, bricks, &c. apparatus for making. William Hodgson, Richmond, Virginia - - May 10 ..
Types, machine for casting. William Wing, Hartford, Conn. Aug. 28 ..
Tub mills. Charles M'Lean and Solomon Loomis . Sept. 25 ..
Tow, machine for preparing and hackling. James Tatterton, Southampton, Long Island - - - Dec. 7 ..
Tansey, *See Essence.*
Tilt hammers. John F. Gould - - - March 8 1806
Transverse sleigh. Levi Rogers, Berwick, Massachusetts Feb. 4 1807
Truss accommodating bolted for ruptures. John Beath, Boston Feb. 7 ..
Tilting waggons. A. Hobart, Braintree, Mass. - Feb. 17 ..
Trip hammer with a perpendicular handle. Joel Foy, jun. Middlesex, Mass. - - - Feb. 25 ..
Thimbles for the sails of ships. I. Jennings, New York Nov. 20 ..
Thrashing machine. Benjamin B. Bernard, Virginia - Nov. 30 ..
Thrashing and cleaning grain. Simon Williard, jun. Hudson, N. Y. Nov. 30 ..
Trimming straw plat for bonnets. E. Smith, Franklin, Mass. March 30 ..
Tanning. Samuel Parker, Bellerica, Mass. - July 9 ..
Tup mill rolling. Samuel Bartlett, East Windsor, Conn. July 19 ..
Tailors Bench. William Burtis, New Brunswick, N. J. Oct. 3 ..
Trashing and winnowing machine. L. Hock, Frederick co. Md. Feb. 15 1809
Trashing machine. Robert Patten, Columbia. Penn. - Feb. 17 ..
Tobacco, mode of curing. John Robinson, Charlotte, Va. Feb. 25 ..
Thrashing machine. Samuel Condon, New Hartford, Conn. March 3 ..
Telagraph. William Schultz, Baltimore - June 14 ..
Tewel. See *Water back.*
Trigonometer or trigon. William Chamberlin - June 28 ..
Truss spiral. Philip A. De Savignhac, New York - July 13 ..
Truss for ruptures. J. Cerneau, New York - Aug. 17 ..
Twisting frames. See *Delaware.*
Table Bureau, dressing. Nathaniel Beary Boston - Oct. 13 ..
Trip hammer, John Smith, Otsego, New York - Oct. 14 ..
Thrashing and cleaning grain. Joseph Coppinger, Baltimore Oct. 31 ..
Thrashing machine. J. Meriwether Syme, Richmond Nov. 29 ..
Thrashing machine. Asa Cady, Florida, New York Dec. 27 ..
Trip hammer. Ezra Osborn, Berkshire, Mass. - Jan. 8 1810
Thrashing machine. Joseph Comfort, Bucks, Penn. Jan. 25 ..
Thrashing machine. John Comfort, Bucks, Pennsylvania Jan. 25 ..
Thrashing machine. Joseph Beach, Northfield, Mass. March 30 ..
Thrashing machine. Isaiah Jennings, Brookfield, N. Y. March 30 ..
Tubes for aqueducts, earthen. James Ramsey, Burke, Vert. April 4 ..
Trip hammer. Elisha Downer, Duceyter - - April 11 ..
Turnpike gate. Jeremiah Brainard, Canaan, N. Y. - April 16 ..
Trip hammer. Oliver Ames, Plymouth, Mass. - - April 25 ..
Tobacco, mode of manufacturing. P. Lorillard, N. Y. April 25 ..

Tenons, machine for cutting. E. Bashford and E. Johnson, Livermore, Mass. - - - - April 28 1810
Tide mill. John P. Sawin and Jacob Skinner, Roxbury, Mass. May 17 ..
Trip hammer. Joseph Hines, Providence, R. I. - - June 16 ..
Tanning hides. Ed. Seter, Delaware co. Penn - - Aug. 16 ..
Thrashing and fanning, machine for Ezekiel Miller and John Anderson, Westmoreland, Oneida, New York - Aug. 15 ..
Tan bark, machine for cutting. C. Griswold and Hosea E. Potter, Otsego, N. Y. - - - - Nov. 20 ..
Tanning, heating water for. A. Henderson, Gt. Barrington, Mass. Nov. 24 ..
Thrashing machine. Daniel C. Arnold, Baltimore - Dec. 15 ..
Tanning leather. Nath. Barley, Stafford, N. H. - - Jan. 24 1811
Type mould. Arch. Binny, Philadelphia - - Jan. 29 ..
Types, mode of smoothing, &c. Arch. Binney, Philadelphia Feb. 4 ..
Thimbles, making rines for, &c. Stephen Chandler, N. York Feb. 4 ..
Thrashing machine. James W. Walker, Wilmington, N. C. Feb. 9 ..
Trip hammer. Joseph Goulding, Leicester, Mass. March 1 ..
Thrashing machine. R. C. Van Hauton, New York March 28 ..
Tanning leather. Joseph Barker, Deerfield, Oneida co. N. Y. April 10 ..
Tanning leather. William Hollingsworth. Elkton, Maryland July 30 ..
Truss, double spring angular. Theodore Hart, New York Aug. 30 ..
Tanning. Alexander H. Avery, Bennington, Vermont Sept. 30 ..
Trip hammer. Joseph Beal, Ontario, New York - Oct. 5 ..
Tanning. Joseph Barker, Deerfield, New York - Jan. 10 1812
Thrashing machine. Benjamin S. Hort, George-town, S. C. Feb. 21 ..
Thrashing machine. William Richards, Culpepper co. Va. March 2 ..
Thrashing machine. Joseph Goulding, Bangor, Mass. March 19 ..
Tanning. Samuel Currie, Philadelphia - March 28 ..
Tobacco spinning, &c. J. Vanderpoole & J. Eagles, Newark, N. J. April 8 ..
Tanning. C. Luther and James Smith, assigned to Daniel Renner, George-town, D. C. - - - - May 5 ..
Trip hammer. Stephen Morrill, Readfield, Mass. - Sept. 28 ..
Tanning. William Edwards, Northampton, Mass. - Oct 19 ..
Thrashing machine. T. Judson, and J. Hotchkiss, Woodbury, Connecticut - - - - Nov. 27 ..
Thrashing machine. Samuel Skiff, Shearon, Conn. - Dec. 5 ..
Thrashing machine. John Houpt, jun. Bucks co. Penn. Dec. 14 ..
Tanning soal leather. W. Edwards, Northampton, Mass. Dec. 30 ..
Tassels and cords for boots. Afford James, Hartford, Conn. March 1 1813
Timber machine for cutting. David Cram, Clarksburg, Va. April 15 ..
Tanning in cold weather, &c. Caleb Atwater, Genoa, N. Y. June 2 ..
Throstle for spinning wool. &c. S. Shalleross, New York Jan. 26 1814
Teazling cloth, substitute for. Isaac Sandford, Providence, R. I. Mar. 26 ..
Torpedo. Ebenezer Ford, Baltimore - - April 14 ..
Tin plates. David Noble, Philadelphia, - - May 9 ..
Types, moulds for casting. A. Binney, Philadelphia - May 17 ..
Table for the use of ships. G. Patrick, Wilkesbarre, Penn. Nov. 8 ..
Tin plates. Aaron Burk, New York - - Feb. 11 ..
Tables. Sullivan Snow, Saco, D. M. - - March 2 1815
Timber, preserving under water. George Lovett, New York April 1 ..
Thrashing machine. Thomas Warner, Genessee, New York May 11 ..
Tenons, machine for cutting. J. Reynolds, Dutchess co. N. Y. June 24 ..
Trip hammer. Urber Palmer, Spencer, New York - July 31 ..
Tops, fall John Eberts, Philadelphia - - Sept. 8 ..
Toothache, machine for steaming. D. Merritt, and S. C. Rogers, New York - - - - Dec. 27 ..
Trees, preventing the canker worm in. Jonas Kendall, Leominster, Massachusetts - - - Jan. 4 1816
Tenters or temples for weavers. D. A. Smith, Townsend, Mass Feb. 23 ..
Types, casting moveable. G. Webster, New York - Feb. 28
Tanning. William Edwards, Northampton, Mass. - April 2
Thrashing machine. E. Hotchkiss, Battleboro', Vermont April 8
Tortoise shell, stamping on. J. H. Derby, Worcester, Mass. April 30

Tub winnowing mill. Moses Elliot, Concord, N. H. - May 18 1816
Tacks, machine for making. Jesse Reed, Hanover, Mass. Aug. 1 ..
Thimbles, rims for. Stephen Chandler, New York - Sept. 20 ..
Tanning. Bradford A. Potter, Manlius, New York - Sept. 26 ..
Types, ornamenting, &c. with. F. Bailey, Philadelphia Oct. 9 ..
Tinder box. Isra Ives, Farrington, Connecticutt - Oct. 25 ..
Tow boats. John S. Sullivan, Boston - - Dec. 4 ..
Type moulds. George B. Lothian, New York - Dec. 18 ..
Thrashing machine. Nathan Read, Boston - Feb. 22 1817
Teazling cloth, machine for. J. Olney, Westmoreland, Oneida county, New York - - - - March 29 ..
Thrashing machine. T. Cohoon and W. Elliot, Washington April 12 ..
Teazling cloth. Josiah Beckwith, Lyme, Conn - May 16 ..
Trusses for ruptures. Amos G. Hall, Utica, New York July 17 ..
Trusses for ruptures. Abel Blanchard, Pembroke, N. H. May 17 ..
Thrashing machine. Silas Smith, Albany, New York Aug. 23 ..
Tacks and brads, machine for. Samuel Rogers and T. Blanchard, Boston - - - - Oct. 3 ..
Teeth, setting artificial. Wilkinson R. Eagleson, Baltimore Oct 4 ..
Toothache, remedy for the. Joseph Utley, Hartford, Conn. Nov. 5 ..
Thrashing machine. Nathan Read, Belfast, District of Maine Dec. 23 ..
Thrashing machine. Nathan Read, Belfast, District of Maine Feb. 18 1818
Thrashing machine. T. Beatty and M. Shanks, Martinsburg, Va. Feb. 25 ..
Tanning and currying leather. J. Preseot, Angusta, Maine March 6 ..
Tubes, machine for drawing metallic. C. Eastman, Hillsboro', New Hampshire - - - - April 16 ..
Temples, weavers. John Waterman, Providence, R. I. May 28 ..
Tachygraphy, or the flying pen. L. A. M. Sprangh, N. Y. June 29 ..
Thrashing machine, improvement in the. Chester Bullard, Norfolk, Massachusetts - - - - Dec. 16 ..
Tanning, improvement in. James Batcheldor, Grafton, N. H. Dec. 22 ..
Thrashing machine. Thomas Mayfield, Baltimore Dec. 28 ..
Twine, machine for tarring and spooling. Israel Decker, Boston April 31 1819
Thrashing machine. Daniel Young, Piermont, New Hampshire April 17 ..
Tin ware, machine for making. S. Peck, Hartford, Conn. April 23 ..
Tobacco press, improvement in the. E. Brown, Richmond, Va. April 30 ..
Tanning, hemlock, &c used in. John Lansing, jun. Albany, N. Y. April 30 ..
Trusses for ruptures. Binjamin Strahan, Philadelphia June. 25 ..
Thrashing machine. William H. Ransone, Mathews, co. Va. Sept. 8 ..
Tire for waggons, &c. mode of hollowing. Thos. Rowand, Gloucester co. New Jersey - - - - Dec. 24 ..
Turning gun stocks, &c. machine for. T. Blanchard, Millbury, Massachusetts - - - - Sept. 6 ..
Towing boats on canals, machine for. Peter Cooper, New York Jan. 24 1820
Tobacco press, improvement in the. S. Fraser, Nottingham, Md. Mar. 23 ..

V.

Ventilators nautical. Benjamin Wynkoop, Philadelphia June 19 1795
Vessels, improvement in maritime affairs. B. Wynkoop, Phil. Sept. 13 1794
Vessels propelling. *See Boats*
Vessels, improvement in constructing and rigging. J. Garretsen May 29 1797
Vessels, bottoms. *See Wood Preserving.*
Vessels, a machine for propelling. Charles Stoudinger June 2 1798
Vessels, heaving down, raising weights, *etc.* *See Machine for.*
Veneering plough for cabinet work. William Stillman Mar. 16 1801
Vapour bath, portable. C. W. Peale, Philadelphia July 16 1801
Ventilator for ships, *etc.* *See Air Pumps.*
Vapour. *See Cooler and Condencer.*
Vegetble elexir or cough drops. S. Cooley, Bolton, Conn. Nov. 12 1803
Vessels. *See Raising.*
Vermifuge, mode of preparing. Joseph Leman, Philadelphia Aug. 11 1807
Vitriolic test for making bank bills. A Brewster, Hartford, Conn July 11 1808

Vegetable pulmonic, detergent. G. Rogers, Northampton, Mass. Dec. 31 1808
Varnish for leather. John David, Philadelphia - - May 5 1809
Vaporem See *Steam Engine.*
Vibrating nail plates whilst cutting. J. Bernard, Troy, N. Y. April 16 1811
Verdigris, manufacturing. Stephen Dempsey, New York Feb. 4 1813
Varnish of gum elastic. Jacob H. Hummel, Philadelphia April 29 ..
Vessel, ball proof. Thomas Gregg, Connell's-ville, Penn. March 19 1814
Vencer's machine for shaving. Silvannus Bonnel, N. J. Feb. 28 ..
Valetudinarian cot chair. John Mead, Albany, New York March 18 ..
Vacinnator, spring. Wm. Haslett, Baltimore - - April 17 1817
Vetrinary ventilated bath. James Carver, Philadelphia - Aug. 8 ..
Verdigris, making. Geo. F. Hagner, Philadelphia - Oct. 13 1817
Violin, bass, &c. improvement in the. Nicholas A. Lete, N. Y. June 11 1818
Velocipede, improvement in the. W. K. Clarkson, jun. N. Y. June 26 1819
Violins, &c. construction of. John Edwards, New York Feb. 17 1820

W.

Washing. See *Cloths.*
Watches. See *Clocks.*
Water, a screw engine for throwing. Elijah Ormsbee March 21 1798
Water, causing it to ascend from founts. John Manning April 10 ..
Water, machine for raising. Marc Isambard, Brunel - April 27 ..
Water wheel flume for the improvement of large rapid streams.
Walter Brewester - - - - June 7 ..
Water pipe and pump for conveying. Mark Reeve - Dec. 14 ..
Water, a machine for raising. Joseph Hemptley - - Jan. 10 1799
Water, obtaining force from by the help of steam. Sam. Morey April 24 ..
Water engine, improvement on his. Samuel Morey April 24 1799
Weight, raising. See *Machine for.*
Wheat, &c. machine for thrashing. William Booker March 11 1797
Wheel, tide water Silas Betts - - March 18 1797
Wheel, spiral, for working in the tide water. Elias Ring Dec. 10 .
Wheel, improvement in an horizontal. Ezekiel Reed Feb. 14 1799
Wind-mills, improvement on. Charles Holden - March 15 1798
Wind-mill, a method of regulating. Thomas Thomson - Jan. 3 1799
Window-sashes, improvement in making. Stephen Parsons Nov. 20 1797
Wood and vegetables, &c. a combination of astringent. F. Hitch Apr. 17 ..
Wood, a method to preserve the bottoms of. R. Peale Dec. 14 1798
Wharves, vessels, and other wood from worms. R. Peale Dec. 14 1798
Writing with two pens, a machine for. M. I. Brunel - Jan. 17 1799
Wire, weaving of. T. Kirk and R. Leslie, Yorktown and Phil. May 9 1792
Wind mill, improvement in. Joseph Pope, Boston - Jan 26 1793
Wheat, *etc.* machine for cleaning. B. Tyler, New Hampshire April 15 1796
Water, engine for throwing. Patrick Lyon - - Feb. 12 1800
Water force by steam. See *Force obtained by water.*
Windows how hung without weights. W. Young, Windham, Conn. Nov 20 ..
Water, machine for raising. W. Palmer, New York - Aug. 25 ..
Wheels within cylinders, mode of giving motion, *etc.* J. Sharples Sept. 15 1801
Wind mills, mechanical powers for the use of which. J. Sharples Sept. 15 ..
Wind mill, improvement in. John A. Morton - Dec. 16 ..
Wind mill, improvement in. R. Hathaway, Plymouth, Mass. Jan. 20 1802
Wheat, machine for cleaning. Stephen Stilwell - July 9 ..
Window sashes, improvement in raising and supporting. Leonard
Kennedy, - - - - - Sept. 7 ..
Water, machine for raising. John Baptiste Aveilhe - Oct. 14 ..
Welding cast steel to iron, improvement in the manner of. Daniel
Pettibone and E. Chapman and J. Nichols - Dec. 22 ..
Water, machine for raising. Benjamin Cooley, Wheatley, Mass. Feb. 1 ..
Wheel to turn under water. Silas Bent - - Mar. 7 ..
Wind mill. See *Horizontal.*
Wreck raft. A. De Rue Marentille, - Mar. 18 ..

Water, improvement in heating and boiling. B. Platt - April 27 1802
Wool, machine for breaking and carding. B. Standring June 28 .
Window sashes, mode of applying springs. S. J. Camp, Norwalk, Connecticutt - - - - July 1 1803
Wooden stills. See *Distillation.*
Water cock, improvement in. George Youle, New York Aug. 25 ..
Wheel press. Hezekiah Betts, Norwalk, Conn. - Sept. 13 ..
Wind mill. See *Horizontal*
Wind mills, improvement in. A. E. Paine, Harpersfield, N. Y. Nov. 19 ..
Window sashes, improvement in fastening and supporting. Jacob Osborn - - - - Nov. 24 ..
Wind mill, improvement in. William Bell, Camden, S. C. Nov. 25 ..
Window springs James Curtis, jun. - - Dec. 10 ..
Wheels, improvement in for various purposes. John Staples, jun. Warren, Virginia - - - Feb. 17 1804
Window sashes, improvement in hanging. W. W. Hopkins Feb. 24 ..
Washing machine, improvement in. Daniel S. Dean Feb. 29 ..
Window fastenings or springs. D. Miller, E. Haddam, Conn. March 8 ..
Watering cattle, machine for. Moses Smith - March 16 ..
Wry fly, improvement applied to mills. Binjamin Tyler, Claremont, New Hampshire - - March 19 ..
Window sashes. See *Springs.*
Water improvement in the raising of. Benjamin Folger July 7 ..
Water, machine for raising from mills. W. Harrington, Paris, Ken. Aug. 28 ..
Windlass for ships or vessels, improved. H. Betts, Norwalk, Conn. Aug. 29 ..
Wind-mill, improvement in. Richard Weems, Annapolis Sept. 29 ..
Waggons or carriage to be worked by hand. John Bolton, jun. Sept. 29 ..
Wind-mill, improvement in. W. Staunton, jun. Plymouth, N. H. Dec. 26 ..
Window-spring, improvement in. Isaac Scott, New Haven Dec. 26 ..
Water, machine for raising. F. Lippart, P. O. Keetztown, Penn. May 3 1805
Washing and scouring machine. A. Higham, Hudson, New York May 4 ..
Water, machine for raising. Seraphim Bellij, Baltimore - Nov. 7 ..
Washing machine. Wm. J. Fulsom & J. Hayden, Kennebeck, D. M. Dec. 17 ..
Water. See *Spring Pump for raising.*
Welding cast steel to iron, mode of. D. Pettibone, Roxbury, Conn. Mar. 22 1805
Washing machine. See *Fulling Mill.*
Water wheels for mills. E. Hubbel, Middleburg, Vermont May 1 ..
Wind-mill. John Cooper, Philadelphia - - May 22 ..
Washing machine. Reuben Buck - - - May 29 ..
Water proof, method of rendering cloth. James P. Weightman, Boston - - - - Oct. 21 ..
Winding cotton, machine for. D. Brown, jun Warren, R. I. Feb. 5 1807
Washing machine. Richard R. Elliot, Watertown, Mass. Feb. 28 ..
Washing machine. Simon Willard, jun. Hudson, N. Y. - April 25 ..
Washing, scouring, and churning machine. Thomas Beatty April 25 ..
Washing machine. Josiah Cleaveland, Franklin co. Penn. June 6 ..
Washing machine. Eben Jones, Berkshire co. Mass. - July 24 ..
Washing machine. M. Lee and T. Barber, Oneida co. N. Y. Oct. 1 ..
Water wheel, improvement in. Simon Willard, jun. Hudson, N. Y. Dec. 1 ..
Washing machine. Wm. Wadsworth, Hartford, Conn. March 15 1808
Wheel to run under water. John Johnson, Indianna Ter. March 21 ..
Whalebone, mode of twisting for whips. Jos. Reeve, Newburg, New York - - - - April 25 ..
Washing machine. Leonard Kennedy, Hartford, Conn. - April 26 ..
Washing machine. Elam King, Johnstown, New York - May 14 ..
Whip saw, application of. S. Barber and N. U. Tompkins, N. Y. June 1 ..
Washing machine. Martin Lee, New York - - June 4 ..
Washing machine, churning, getting out clover seed, &c. Robert Patton, Columbia, Penn. - - June 13 ..
Washing machine, perpendicular. E. Jones, Alfred, Mass. June 20 ..
Washing machine. Asahel P. Paine, Delhi, New York - July 1 ..
Washing machine. Enos Trescott, New Marlboro', Mass. July 11 ..
Washing machine. Sheron Henry, Bloomfield, N. Y. - July 11 ..

Washing machine.	Thomas Osgood, Charleston, New York	July 11	1808
Washing machine.	Eben. Lister, Killingworth, Conn. -	July 11	..
Washing machine.	Dudley Loomis and Ira - -	July 11	..
Wind-mill.	Uzziel Geer, Norwich, Conn. - -	July 18	..
Wheels, machine for making.	Jacob Coon, Granville, New York	Aug. 6	..
Water, machine for elevating.	Wm. Smith, Gloucester, N. J.	Aug. 12	..
Washing machine.	S. W. Dana, Rutland, Vermont -	Aug. 30	..
Wheel carriages.	Stephen Winchester, Newton, Conn.	Aug. 30	..
Washing and churning machine.	Ditto Ditto -	Aug. 30	..
Washing and churning machine.	G. Bishop, Cazenovia, N. Y.	Sept. 7	..
Winnowing machine.	Randal Wallis, Baltimore - -	Nov. 9	..
Window sashes, machine for making.	J. Farnham, Oswego, N. Y.	Jan. 7	1809
Washing machine.	Septimus Tucker, Dublin, Penn. -	Jan. 12	..
Window shutters.	See *Fastening*.		
Washing machine	Eli F. Hill, Onandago, New York -	Feb. 11	„
Wheel, overshot strap or chain.	Richard Berrian, New York	Feb 13	..
Washing machine.	A. Blodget. Amherst, Mass. -	Feb. 16	..
Washing machine.	Joseph Yarwood, New Brunswick, -	Mar. 11	..
Washing machine.	Lei Anderson, Bristol, Penn. -	Mar. 23	..
Washing machine.	William Buckman, Annarundell, Md.	Mar. 23	..
Washing machine.	Garry Bishop, Madison co. N. Y.	April 17	..
Washing machine.	Lemuel Bachelor, Vernon, New York	April 24	..
Window sashes.	David Worthington, Hartford, Conn.	April 27	..
Water wheel.	William Stubs, Chillicothe - -	May 1	..
Weaving straw with silk, *&c.*	Mary Keis, Killingly, Conn.	May 5	..
Washing machine.	Orin Chatfield, Burlington, New York	May 15	„
Washing machine.	Nicholas Van Zant, Washington -	May 21	„
Washing and churning machine.	G. Osgood, Madison co. N. Y.	June 7	„
Washing machine.	Martin Lee, Burlington, New York -	June 8	„
Washing machine.	Isaiah Jennings, New York - -	June 13	„
Wool carding machine.	Daniel Smith. Philadelphia -	June 14	„
Water tables, for doors, *ect.*	Nathaniel Briggs, Windham, Vert.	June 17	„
Water back and tewel for smiths.	Oliver Ames, Plymouth, Mass.	June 24	„
Washing machine.	Thomas Pierce, Fishkill, New York	June 24	„
Worm boiler.	James Truman, Philadelphia - -	June 24	„
Washing machine and press.	Amos Hosford and Ezekiel Kelsey, Berlin, Conn. - - - -	June 27	„
Washing machine.	Timothy Freeman, Madison co. New York	June 28	„
Wheat rubber.	James Deneale, Dumfries, Virginia -	July 1	„
Wire work, machine for weaving.	P. Bernard, Whitestone, N. Y.	July 7	„
Wood screws.	See *Screws*.		
Washing machine.	Shubael Kimball, Rhinebeck, New York	Aug. 12	„
Wheel, to operate by wind or water.	W. L. Bakewell, New Haven, Connecticut - - - -	Aug. 18	„
Wheel, mode of casting for clocks.	Lemuel J. Kilburn, Penn.	Oct. 13	„
Washing machine.	Rozel Philips, Otsego, New York -	Oct. 14	„
Washing machine.	Robert Robinson, Leesburg, Virginia	Nov. 3	„
Water wheel, horizontal.	David Parmalee, Reading, Conn.	Nov. 20	„
Wells, mode of sinking	Peleg Easton, Nantucket, Mass.	Feb. 1	1810
Washing machine.	Sylvester Noble, Hosick, New York	Feb. 1	..
Weaving machine.	Walter Janes, Ashford, Conn.	Feb. 15	..
Windows.	See *Spring bolt*.		
Whip saw.	See *Saw*.		
Water wheels for mills.	J. Minor, Saratoga, New York	April 2	..
Wheel wrights labour sawing machine.	M. Battle, N. Y.	April 4	..
Washing and churning machine.	J Roberts, Germantown, Penn.	April 25	..
Wind mills.	Russel H. Wright, Boston - -	April 25	..
Wire winding and spinning.	Henry Burke, Philadelphia	June 18	..
Washing machine.	Isaac Lodborrow, New York	June 26	..
Winding machine for weavers'	Levi Ruggles, Boston	Aug. 16	..
Winding machine for weavers.	Walter Janes, Ashford, Conn.	Aug. 20	..
Writing, teaching the art of.	S Warren, Randall, R. I.	Oct. 1	..
Washing machine.	William Jackson, Parnsville, Ohio	Oct. 8	..

Water wheel. Pindar Antrim and Samuel Bolton, Phil. Nov. 1 1810
Windlass and capstan. John Galvin, Philadelphia Nov. 6 ..
Water, machine for raising, &c. Joseph Clap, Montague, Mass. Nov. 21 ..
Water wheel. Aaron Reuck, Chilicothe, Ohio - Dec. 5 ..
Washing machine. Daniel Robinson, Franklin, N. Y. - Dec. 15 ..
Window springs. George Cannon, Nantucket, Mass. - Dec. 27 ..
Water boiler and steam still. P. Bernard, Whitestown, N. Y. Jan. 16 1811
Wood, preserving in salt water. Robert Lloyd Nicholas, Easton Talbot co. Maryland - - - Feb. 23 ..
Wheat. See *Starch, etc.*
Wheel, tide mill. D. Wheeler, Bristol, Mass. - Mar. 2 ..
Warming rooms. B. Russel, Hartford, Conn. - March. 4 ..
Wind wheel, horizontal bellows. D. Van Vorhees, L. Island, N. Y. Mar. 21 ..
Water wheel spiral. B Schoolfield and W. Stanton, Lynchburg, Virginia - - - - April 26 ..
Water wheel, raising or lowering. M. Andrews, Kenebeck, Mass. May 4 ..
Weighing machine. Thomas Arnat, Philadelphia - May 10 ..
Writing instrument. Ezra L. Miller, Charleston, S. C. - May 11 ..
Window sashes. John Ballthorp - - May 22 ..
Washing machine D. Duncan, Upperville, Louden co. Va. May 23 ..
Water wheel, horizontal. John Osburn, jun. Litchfield, Conn. May 29 ..
Water blast Joseph Ruggles, New Milton, Conn. - June 6 ..
Water wheels, machine for two. Luke C. Hinman, Luther Bissel, and Moses Barns, Otsego, New York - - June 7 ..
Wheel head, accelerating. A. Putman, Philadelphia - July 20 ..
Wooden springs for carriages. L. Sommer, Downington, Penn. July 22 ..
Wear for catching fish. Hawley Emerson, Hancock - Aug. 14 ..
Wool picker. Michael Morrison, Boston - - Aug 15 ..
Weaving. N. and P. W. Miller, Franklin, Mass. - Aug. 20 ..
Weaving. Joseph Atkinson, Amherst, Mass. - Sept. 5 ..
Wool, machine for drawing and spinning. William Humphreys, Humphreysville, Connecticut - - Oct. 4 ..
White lead, washing. Samuel Witherille, jun. Philadelphia Oct. 29 ..
White lead, setting the beds, &c. Do. Do Oct. 29 ..
White lead, screening in water. Do. Do. Nov. 1 ..
White lead, separating the oxidated from the metallic. Do Nov. 1 ..
Water wheel. Elisha Mack, Sheffield, Massachusetts Nov 2 ..
Water gate, ballance. William Maher, Rome, N. Y. Nov. 12 ..
Welding scrap iron, *etc.* B. King, Washington City Nov. 15 ..
Wire. See *Rolling*
Writing, mode of teaching to. S. Randall, Warren, R. I. Jan. 11 1812
Weaving, the art of. J. Rood, Canterbury, Conn. Jan. 23 ..
Whirl and regulator for flax C. Crafts, Woodbury, Conn. Feb. 10 ..
Washing machine. W. Stanton, Lynchburg, Campbell co. Va. May 12 ..
Warming rooms. Daniel Pettibone, Philadelphia May 12 ..
Water, hydraulic for raising. W. Schultz, Philedelphia May 26 ..
Washing and churning machine. Z. Phiney, Cairo, N. Y. June 19 ..
Water gate, shutting the. Amos Bolton, Faquier co. Va. June 19 ..
Washing machine. Joseph Palmer, Brookfield, New York Aug. 21 ..
Wharves, constructing. John Butler, Baltimore - - Sept. 9 ..
Wire, machine for making. Wm. Wadsworth, Hartford, Conn. Oct. 6 ..
Wool carding machine. G. Both, Poughkeepsie, New York Oct. 13 ..
Wire, machine for drawing Jacob T. and Thomas Walden, N. Y. Oct. 31 ..
Wine, converting cyder into Henry Seabolt, Scipio, N. Y. Nov. 11 ..
Water mills. Samuel Browder, New York - - Nov. 27 ..
Wheel heads. Wm. H. Peabody, Woodbury, Conn. - Dec. 14 ..
Washing machine. Erastus Denison, New Lisbon, New York Dec. 30 ..
Water, raising from wells. George Patterson, Philadelphia Feb. 6 1813
Wool spinner. See *Perpetual.*
Wool for worsted, preparing. Joseph Bamford, Philadelphia March 18 ..
Wheel head. Eli Church, Horner, N. Y. - - March 18 ..
Winnowing machine. John James, 3d. Plymouth, Mass. - May 4 ..
Washing machine. John F. Whipple, Easton, New York June 10 ..

Wheels, machine for making. Melzor Hunt and Cotton White, Hartford, Mass. - - - - June 13 1813
Washing machine. Josiah Hotchkiss, Woodbury, Conn. June 18 ..
Ditto. Silas Hitchcock, Vernon, New York - June 25 ..
Water mill. Jacob Perkins, Newburyport, Mass. - - June 26 ..
Weavers' lathe John Drummond, New York - - July 24 ..
Weavers' beam. Goliah Williams, North Providence, R. I. Aug. 24 ..
Wine from cyder. Ezra B. Corkings, Bristol, New York - Oct. 9 ..
Window sashes, bolt for. Nathaniel Briggs, New York - Oct. 13 ..
White lead making. Alexander James Hamilton, New York Nov. 8 ..
Wooden springs. Luke H. Thrail, Troy, New York Nov. 10 ..
Weights, applied to machinery. Peter Obert, New York Nov. 18 ..
Weaving millinett, &c. Stephen Steward, Cheshire, N. H. Nov. 31 ..
Wheel head. David Loring, Canandaigua, New York - Nov. 31 ..
Water mills. John Owings, Baltimore - - Jan. 25 1814
Washing machine. John Gray, Eaton, New York - Feb. 4 ..
Water, machine for raising. Jacob Hartman, Lampeter, Penn. March 31 ..
Wheel for spinning, &c. Emery Russell, Long Meadow, Mass. April 18 ..
Wheel heads. Ditto Ditto April 18 ..
White lead. Elisha D. Butts, Baltimore - - May 5 ..
Water-wheel, improvement on Farnham's. David Cooper, Jericho, New York - - - - May 12 ..
Washing machine. Elephalet Jaques, Newburyport, Mass. May 24 ..
Wood sawing. Benjamin Hoadley, Waterbury, Conn. - June 14 ..
Weeding machine. Charles Hill, Essex county, Virginia - July 7 ..
White lead manufacturing. J. Welsh and T. Evans, Philadelphia Aug. 15 ..
Winding spool, &c. Augustus C. Sherewood - - Oct. 18 ..
Wadding cotton. James Beaumont, Canton, Mass. - Dec. 3 ..
Wheelhead linen. B. Smith and Chas Stewart, Truxton, N. Y. Dec. 8 ..
Water wheel, horizontal. W. Cornwall, Grancock, Virginia Dec. 15 ..
Wooden springs for carriages. Levin Brickhead - - Dec. 30 ..
Weaving, spooling, and winding. Eben Stowell, Middlebury, Ver. Feb. 28 1815
Warping machine. Thomas Siddall, Germantown, Penn. March 27 ..
Water wheel. George Peck, Whitestown, New York April 26 ..
Washing machine. Joshua Lane, Homer, New York May 15 ..
Water used on wheels successively. A. Danielson, Otsego, N. Y. May 16 ..
Whiskey, making. Silas Smith, Genessee, New York - May 23 ..
Water-wheel, horizontal. James Wood, Mount Pleasant, N. Y. June 19 ..
Wind and water wheel. Jonathan Reynolds, Duchess co. N. Y. June 24 ..
Water wheel, applying. Asa Jellson, Roxbury, Mass. - July 17 ..
Wheel, vertical horse. John A. Morton, Baltimore - July 21 ..
Wool, machine for spinning and roping. Samuel Learned, Watertown, Massachusetts - - - - Aug. 3 ..
Wheels, carriage. B. L. Greenough, Lebannon, N. H. Aug. 12 ..
Water wheel, horizontal. R. A Donaldson and J. L. Wheeler, Newark, New Jersey - - - Sept. 25 ..
Weights, iron. Alven Babcock, Boston - - Nov. 6 ..
Washing machine. Christ. Seebold, New Berlin, Penn. - Feb. 1 1816
Water wheel, overshot. John Green, Virginia March 5 ..
Winding yarn. Paul Moody, Boston - - - March 9 ..
Wheel head. David Lee, Guilford, Conn. - - May 6 ..
Water wheel. Silas Dalie, Cumberland, Mass. - - May 28 ..
Weaving. Ira Draper, Weston, Massachusetts - - June 7 ..
Weights, propelling boats by. Moses Martin, Woodbridge, N. J. July 8 ..
Willard's time-piece, improvement on. L. Curtis, Concord, Mass. July 12 ..
Windmill, improvement in. James Barron, Elizabeth City, Va. July 18 ..
Winder, socket and bobbin. John Thorp and S. Shepard, Tannton, Massachusetts - - - - Oct. 14 ..
Water marks in paper. J. Perkins and T. Gilpin, Philadelphia Dec. 18 ..
Water wheel. Wm. Purnell, Giles co. Tennessee - Jan 10 1817
Weights, machine for raising. Henry Nold, Bucks co. Penn. Jan. 22 ..
Water, rendering pure. S. Griffith, Stephenson, Ranslaer co. N. Y. Feb. 1 ..

Water power applied to machinery. Meredith Mallory, Benton, Ontario, New York - - - March 3 1817
Water wheel, tide and current. Samuel Morey, Oxford, N. H. March 13 ..
Ditto Ditto Ben. Thomas, Washington, D. C. Mar. 20 ..
Window blinds. George Munger, Cambridge, Md. - March 26 ..
Water wheel. Theo. Burr, Burr Haven, Dauphin co. Penn. April 3 ..
Water wheel. Ira Griswold, Granby, Conn. - - April 16 ..
Water wheel, perpetual. James Widdifield, Philadelphia April 21 ..
Windows and door frames. Randolph Ross, Baltimore - April 30 ..
Water, mode of letting on a wheel. J. Smith, Queen's co. N. Y. July 1 ..
Water wheel. Amos Thayer, Albany, New York - - July 7 ..
Weaving, preparing yarn for. H. P. Franklin and W. B. Winsor, Providence, Rhode Island - - - Aug. 8 ..
Wells, sinking. Eben. Hilyard, Philadelphia - - Sept. 10 ..
Water, raising and forcing. L. T. B. and S. E. Morse, Charlestown, Massachusetts - - - Oct. 3 ..
Wheel, horizontal inclined. M. Isaacs and John Wilbanks, Phil. Oct. 14 ..
White lead, making of. George F. Hagner, Philadelphia - Oct. 13 ..
Water wheels. Charles Agustine Busby, New York - Oct. 25 ..
Water burner, American. Samuel Morey, Oxford, N. H. Dec. 11 ..
Wood seasoning. James Ronaldson, Philadelphia - - Feb. 2 1818
Winnowing machine. Ed. and John Brooks, Wilmington, Del.
Water proof, stiffening for hats. A. and G. V. Raymond, Balt. Feb. 7 ..
Water wheel, spiral screw. Alex. D. M'Kamy, West Tennessee Feb. 10 ..
Wheel trailing. John Read Lime, Connecticut - - March 6 ..
White lead. Edward Clarke, Philadelphia - - March 28 ..
Weaving. Stephen Armstrong, Poughkeepsie, New York April 7 ..
Weaving machine. David Grieve, Providence, Rhode Island April 11 ..
Water wheel. John Evans, Davies co. Indiana - - April 21 ..
Waste steam. John H. Morton, Thomas Bodley, and Robert Huston, Lexington, Kentucky - - April 28 ..
Wooden springs for carriages. James Greenwood, New Castle, Delaware - - - - April 28 ..
Water, new mode of applying as a power. A. Thayer, Albany, New York - - - - May 1 ..
Water wheel. Amos Thayer, Albany, New York - - May 1 ..
Water wheel. John Edwards, Urbana, Ohio - - May 25 ..
Water tew iron. Gideon Davis, Sandy Spring, Montgomery co. Maryland - - - - May 26 ..
White lead. Joseph Richards, Philadelphia - - May 28 ..
Wind wheel. Moses Isaacs, Cambden, N. J. near Philadelphia May 28 ..
Wheel for propelling boats. John Sayward Trott, Boston June 2 ..
Writing. See *Tachygraphy.*
Weights, machine for raising. S. Gray, Madrid, New York July 15 ..
Water wheel, called the boat wheel. H. Brown, Lebannon, Ohio July 24 ..
Wooden springs. James Clark, Kent co. Delaware - July 31 ..
Washing machine. James Barnet, Providence, R. I. - Sept. 15 ..
Winnowing machine, improvement in the. Thomas Beatty, Washington - - - - Oct. 5 ..
Window springs, improvement in. Gideon Drake, Hartford, Conn. Oct. 26 ..
Water wheel, improvement in the. Arthur Henrie, Miama, Ohio Oct. 28 ..
Water tew iron. W. Barker, Luzerne co. Penn. - Nov. 10 ..
Winnowing machine, improvement in the. J. Bromwell, Baltimore Nov. 26 ..
*W*ater burner, improvement on Morey's. J. L. Sullivan, Boston Dec. 11 ..
*W*heel, improvement on the double stem. J. L. Sullivan, Boston Dec. 10 ..
*W*ater burner, improvement on Ms. J. L. Sullivan, Boston Dec. 19 ..
*W*ater wheel, improvement on. Asa Waters, Millbury, Mass. Dec. 22 ..
*W*ooden jack screw. Z. Bunker, Guilford, co. N. C. - Feb. 3 1819
*W*heat, machine for cleaning garlic, *etc* from. Thomas Wilson, Baltimore co. Maryland - - - Feb. 8 ..
*W*heel, chain water. Henry Beidleman, Washington co. Va. Feb. 8 ..
*W*innowing machine. Horatio Watkins, Washington co Md. March 18 ..
*W*heel shovel and scraper. Nathan Whiting, Chester, Vert. March 19 ..

Water wheel, improvement in the. T. Eames, Newbury, Vert.	April 29	1819
Washing machine. Beardsley Hendryne, Springfield, N. Y.	May 6	"
Window springs. Hezekiah Salisbury, jun. Battleboro, Vert.	May 24	"
Water, mode of raising. John Ambler, New Berlin, Chenango	May 26	"
Wheel horizontal. George Deming, Burlington, Vert.	July 22	"
Winnowing machine for wheat, &c. E. Tisdale, Herkimer co. N. Y.	July 31	"
Wheel barrow, Jeremiah Bainard, Rome, New York	Aug. 26	"
Weaving, improvement in. J. H. Pierson, and James S. Simmons Rockland co. New York - - -	Dec. 31	"
Wheat, machine for washing and drying. Samuel Martin and Z. Chapin, Ontario co. New York - - -	Jan. 18	1820
Water wings, for propelling boats, &c. J. J. Dyster, Baltimore	Feb. 9	"

Y.

Yellow paint, mode of preparing. B. A. Carrendeffez, N. Y.	Sept. 2	1806
Yarn beam for looms. Simeon Pette, Foxboro', Mass.	June 15	1813
Yarn, machine for sizeing and dressing. Paul Moody, Watham, Massachusetts - - - -	Jan. 17	1818

MODE OF APPLYING FOR A PATENT.

Every inventor before he presents his petition to the Secretary of State, signifying his desire of obtaining a patent, shall pay into the treasury of the United States thirty dollars, for which he shall be furnished with duplicate receipts, one of which he shall deliver to the Secretary of State, when he presents his petition; and the money thus paid shall be in full for the sundry services to be performed in the office of the Secretary of State, consequent to such petition. This petition must be addressed to the Secretary of State, and may be in the following, or in a similar style:

TO THE HON.——————SECRETARY OF STATE OF THE UNITED STATES:

The Petition of A. B. of ——————, in the county of ——————, and State of —————— respectfully represents:

That your petitioner has invented a new and useful improvement [" or art, machine, manufacture or composition of matter, or any new and useful improvement in any art, machine, manufacture, or composition of matter] in —————— not known or used before his application," the advantages of which he is desirous of securing to himself and his legal representatives, he therefore prays that letters Patent of the United States may be issued, granting unto your petitioner, his heirs, administrators or assigns, the full and exclusive right of making, constructing, using and vending to others to be used, his said improvement, (art, invention, machine, manufacture or composition of matter, &c.) agreeably to the act of Congress in such case made and provided; your petitioner having paid thirty dollars into the treasury of the United States, and complied with other provisions of the said acts. A. B

The *specification* or description of the machine, art, discovery, or invention, must be given in clear and specific terms, designating it from all other inventions, and describing the whole in such a manner, as to comprehend not only the form and construction, (if a machine) but also the mode of using the same; and if it be only an improvement on a certain machine already invented by the applicant or any other, it ought to be so mentioned or described; and as this specification, description or schedule, enters into, and forms part of the patent, it must be without any references to a model or drawing, and must be signed by the applicant or applicants, before two witnesses. It is material that this be in good language, and correctly written, as it is transcribed into the patent, and the original papers will be deposited in an office, that will hand them down to posterity; by which the honour of the country is concerned in this attention. The modest inventor will no doubt, exclude those panegyrics on the excellence of his invention or discovery, which abound sometimes in the productions of the inferior genius, but which ought not to enter into the patent.

The following, or a similar oath or affirmation, taken [before a judge of any of the courts, or a justice of the peace, or any person qualified to administer an oath] by the applicant or applicants, must be subjoined to the specification, if citizens of the United States.

FORM.

County of——————} *ss.*
State of——————}

On this ——— of ———, 18 , before the subscriber, a Justice of the Peace, in and for the said county, personally appeared the aforenamed A. B. and made solemn oath [or affirmation] according to law, that he verily believes himself to be the true and original inventor or discoverer of the art, [machine, invention, or improvement, composition of matter, &c.] above specified and described, for —— —— (mention here the object or intention) —————— and that he is a citizen of the United States. ——————, Just. Peace

If not a citizen (or citizens) the following addition must be made to the declaration, " that he verily believes himself to be the true and original inventor " or discoverer of the art, &c. *And that the same hath not, to the best of his or " her knowledge, or belief, been known or used, either in this or any foreign country*

"———." Also, that he (or she) hath resided in the United States for two "years and upwards."

It is not necessary that the time of residence should immediately precede the application.

If any inventor or discoverer should die intestate before an application be made for a patent, his legal representatives may apply for the patent, in trust for the heirs at law; otherwise in trust for the devisees.

The specification must be accompanied by a good drawing, in perspective, of the whole machine or apparatus, "where the nature of the case admits of drawings, or with specimens of the ingredients, and of the composition of matter, sufficient in quantity for the purpose of experiment, where the invention is of a composition of matter." "and such inventor shall, moreover, deliver a model of his machine, provided the Secretary shall deem such model to be necessary." It is requisite, in giving a drawing of the machine, to give also sectional drawings of the interior, when the machine is complex; and every drawing should be accompanied with explanatory references. If the machine be complex, a model will likewise be necessary, not only to explain and render it comprehensible to a common capacity, but also to prevent infringements of rights; for many will plead ignorance of drawings, who cannot avoid conviction by wheels and pinions.

The drawings ought not to exceed a quarto size, and if confined to octavo, they would be still better, where it can be done conveniently and distinctly.

An Act for the Encouragement of Learning, by securing the Copies of Maps, Charts and Books, to the Authors and Proprietors of such Copies, during the times therein mentioned."

SECT. 1. *Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That from and after the passing of this act, the author and authors of any map, chart, book or books already printed within these United States, being a citizen or citizens thereof, or resident within the same, his or their executors, administrators or assigns, who hath or have not transferred to any other person the copy-right of such map, chart, book or books, share or shares thereof; and any other person or persons, being a citizen or citizens of these United States, or residents therein, his or their executors, administrators or assigns, who hath or have purchased or legally acquired the copy-right of any such map, chart, book or books, in order to print, reprint, publish or vend the same, shall have the sole right and liberty of printing, reprinting, publishing and vending such map, chart, book or books, for the term of fourteen years from the recording the title thereof in the clerk's office, as is hereafter directed: And that the author and authors of any map, chart, book or books already made and composed, and not printed or published, or that shall hereafter be made and composed, being a citizen or citizens of these United States, or resident therein, and his or their executors, administrators or assigns, shall have the sole right and liberty of printing, reprinting, publishing and vending such map, chart, book or books, for the like term of fourteen years from the time of recording the title thereof in the clerk's office as aforesaid. And if, at the expiration of said term, the author or authors, or any of them, be living, and a citizen or citizens of these United States, or resident therein, the same exclusive right shall be continued to him or them, his or their executors, administrators or assigns, for the further term of fourteen years: *Provided,* he or they shall cause the title thereof to be a second time recorded and published in the same manner as is herein after directed, and that within six months before the expiration of the first term of fourteen years aforesaid.

SECT. 2. *And be it further enacted,* That if any other person or persons, from and after the recording the title of any map, chart, book or books, and publishing the same as aforesaid, and within the times limited and granted by this act, shall print, reprint, publish or import, or cause to be printed, reprinted, published, or imported from any foreign kingdom or state, any copy or copies of such map, chart, book or books, without the consent of the author or proprietor thereof, first had and obtained in writing, signed in the presence of two or more creditable witnesses; or knowing the same to be so printed, reprinted, or imported, shall publish, sell or expose to sale, or cause to be published, sold

L. of C.

or exposed to sale, any copy of such map, chart, book or books, without such consent first had and obtained in writing as aforesaid, then such offender or offenders shall forfeit all and every copy and copies of such map, chart, book or books, and all and every sheet and sheets, being part of the same, or either of them, to the author or proprietor of such map, chart, book or books, who shall forthwith destroy the same: And every such offender or offenders shall also forfeit and pay the sum of fifty cents for every sheet which shall be found in his or their possession, either printed or printing, published, imported or exposed to sale, contrary to the true intent and meaning of this act, the one moiety thereof to the author or proprietor of such map, chart, book or books, who shall sue for the same, and the other moiety thereof, to and for the use of the United States, to be recovered by action of debt in any court of record in the United States, wherein the same is cognizable. *Provided always*, That such action be commenced within one year after the cause of action shall arise, and not afterwards.

SECT. 3. *And be it further enacted*, That no person shall be entitled to the benefit of this act, in cases where any map, chart, book or books, hath or have been already printed or published, unless he shall first deposit, and in all other cases, unless he shall before publication deposit a printed copy of the title of such map, chart, book or books, in the clerks office of the district court where the author or proprietor shall reside: And the clerk of such court is hereby directed and required to record the same forewith, in a book to be kept by him for that purpose, in the words following, (giving a copy thereof to the said author or proprietor, under the seal of the court, if he shall require the same.) "District of to wit: *Be it remembered*, That on the day of in the year of the independence of the United States of America, A. B. of the said district, hath deposited in this office the title of a map, chart, book or books, (as the case may be) the right whereof he claims as author or proprietor, (as the case may be) in the words following, to wit: [here insert the title] in conformity to the act of the Congress of the United States, intituled, "An act for the encouragement of learning, by securing the copies of maps, charts, and books, to the authors and proprietors of such copies, during the times therein mentioned." C. D. clerk of the district of ." For which the said clerk shall be entitled to receive sixty cents from the said author or proprietor, and sixty cents for every copy under seal actually given to such author or proprietor as aforesaid. And such author or proprietor shall, within two months from the date thereof, cause a copy of the said record to be published in one or more of the newspapers printed in the United States, for the space of four weeks.

SECT. 4. *And be it further enacted*, That the author or proprietor of any such map, chart, book or books, shall, within six months after the publishing thereof, deliver, or cause to be delivered to the Secretary of State a copy of the same, to be preserved in his office.

SECT. 5. *And be it further enacted*, That nothing in this act shall be construed to extend to prohibit the importation or vending, reprinting or publishing within the United States, of any map, chart, book or books, written, printed, or published by any person not a citizen of the United States, in foreign parts or places without the jurisdiction of the United States.

SECT. 6. *And be it further enacted*, That any person or persons who shall print or publish any manuscript, without the consent and approbation of the author or proprietor thereof, first had and obtained as aforesaid, (if such author or proprietor be a citizen of, or resident in these United States,) shall be liable to suffer and pay to the said author or proprietor all damages occasioned by such injury, to be recovered by a special action on the case founded upon this act, in any court having cognizance thereof.

SECT. 7. *And be it further enacted*, That any person or persons shall be sued or prosecuted for any matter, act, or thing done under or by virtue of this act, he or they may plead the general issue, and give the special matter in evidence.

FREDERICK AUGUSTUS MUHLENBERG,
Speaker of the House of Representatives.
JOHN ADAMS,
Vice-President of the United States, and President of the Senate.

Approved—May 31, 1790.
GEO. WASHINGTON, *President of the United States.*

An ACT to promote the Progress of useful Arts; and to repeal the Act heretofore made for that purpose.

SECT. 1. *Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled,* That when any person or persons being a citizen or citizens of the United States, shall alledge that he or they have invented any new and useful art, machine, manufacture, or composition of matter, or any new and useful improvement on any art, machine, manufacture or composition of matter, not known or used before the application, and shall present a petition to the Secretary of State, signifying a desire of obtaining an exclusive property in the same, and praying that a patent may be granted therefor, it shall and may be lawful for the said Secretary of State, to cause letters patent to be made out in the name of the United States, bearing test by the President of the United States, reciting the allegations and suggestions of the said petition, and giving a short description of the said invention or discovery, and thereupon granting to such petitioner or petitioners, his, her or their heirs, administrators or assigns, for a term not exceeding fourteen years, the full and exclusive right and liberty of making, constructing, using and vending to others to be used, the said invention or discovery, which letters patent shall be delivered to the Attorney General of the United States, to be examined; who, within fifteen days after such delivery, if he finds the same conformable to this act, shall certify accordingly at the foot thereof, and return the same to the Secretary of State, who shall present the letters Patent thus certified, to be signed, and shall cause the seal of the United States to be thereto affixed: and the same shall be good and available to the grantee or grantees, by force of this act, and shall be recorded in a book, to be kept for that purpose, in the office of the Secretary of State, and delivered to the patentee, or his order.

SECT. 2. *Provided always, and be it further enacted,* That any person, who shall have discovered an improvement in the principle of any machine, or in the process of any composition of matter, which shall have been patented, and shall have obtained a patent for such improvement, he shall not be at liberty to make, use or vend the original discovery, nor shall the first inventor be at liberty to use the improvement: and it is hereby enacted and declared, that simply changing the form or proportions of any machine, or composition of matter, in any degree, shall not be deemed a discovery.

SECT. 3. *And be it further enacted,* That every inventor, before he can receive a patent, shall swear or affirm, that he does verily believe, that he is the true inventor or discoverer of the art, machine, or improvement, for which he solicits a patent, which oath or affirmation may be made before any person authorized to administer oaths, and shall deliver a written description of his invention, and of the manner of using, or process of compounding the same, in such full, clear and exact terms, as to distinguish the same from all other things before known, and to enable any person skilled in the art or science, of which it is a branch, or with which it is most nearly connected, to make, compound, and use the same. And in the case of any machine, he shall fully explain the principle, and the several modes, in which he has contemplated the application of that principle or character, by which it may be distinguished from other inventions; and he shall accompany the whole with drawings and written references where the nature of the case admits of drawings, or with specimens of the ingredients, and of the composition of matter, sufficient in quantity for the purpose of experiment, where the invention is of a composition of matter; which descriptions signed by himself, and attested by two witnesses, shall be filed in the office of the Secretary of State, and certified copies thereof shall be competent evidence, in all courts, where any matter or thing, touching such patent-right, shall come in question. And such inventor shall moreover, deliver a model of his machine, provided the Secretary shall deem such model to be necessary.

SECT. 4. *And be it further enacted,* That it shall be lawful for any inventor, his executor or administrator, to assign the title and interest in the said invention, at any time, and the assignee having recorded the said assignment, in the office of the Secretary of State, shall thereafter stand in the place of the original inventor, both as to right and responsibility, and so the assignees or assigns, to any degree.

SECT. 5. *And be it further enacted,* That if any person shall make, devise and

use, or sell the thing so invented, the exclusive right of which shall as aforesaid, have been secured to any person by patent, without the consent of the patentee, his executors, administrators or assigns, first obtained in writing, every person, so offending, shall forfeit to pay the patentee, a sum that shall be at least equal to three times the price, for which the patentee has usually sold or licenced to other persons, the use of the said invention; which may be recovered in an action on the case founded on this act, in the circuit court of the United States, or any other court having competent jurisdiction.

SECT. 6. *Provided always and be it further enacted,* That the defendant in such action shall be permitted to plead the general issue, and give this act and any special matter, of which notice in writing may have been given to the plaintiff or his attorney, thirty days before trial, in evidence, tending to prove, that the specification filed by the plaintiff, does not contain the whole truth relative to his discovery, or that it contains more than is necessary to produce the described effect, which concealment or addition shall fully appear to have been made, for the purpose of deceiving the public, or that the thing, thus secured by patent was not originally discovered by the patentee, but had been in use, or had been described in some public work, anterior to the supposed discovery of the patentee, or that he had surreptitiously obtained a patent for the discovery of another person: in either of which cases, judgment shall be rendered for the defendant, with costs, and the patent shall be declared void.

SECT. 7. *And be it further enacted,* That where any state before its adoption of the present form of government, shall have granted an exclusive right to any invention, the party claiming that right, shall not be capable of obtaining an exclusive right under this act, but on relinquishing his right under such particular state, and of such relinquishment, his obtaining an exclusive right under this act shall be sufficient evidence.

SECT. 8. *And be it further enacted,* That the persons, whose applications for patents, were, at the time passing of this act, depending before the Secretary of State, Secretary at War, and Attorney General, according to the act, passed the second session of the first Congress, intitled, "An act to promote the progress of useful arts," on complying with the conditions of this act, and paying the fees herein required, may pursue their respective claims to a patent under the same.

SECT. 9. *And be it further enacted,* That in case of interfering applications the same shall be submitted to the arbitration of three persons, one of whom shall be chosen by each of the applicants, and the third person shall be appointed by the Secretary of State,; and the desision or award of such arbitrators, delivered to the Secretary of State, in writing and subscribed by them, or any two of them shall be final, as far as respects the granting of the patent: And if either of the applicants shall refuse or fail to choose an arbitrator, the patent shall issue to the opposite party. And where there shall be more than two interfering applications, and the parties applying shall not all unite in appointing three arbitrators, it shall be in the power of the Secretary of State to appoint three arbitrators for the purpose.

SECT. 10. *And be it further enacted,* That upon oath or affirmation being made, before the judge of the district court, where the patentee, his executors, administrators or his assigns reside, that any patent which shall be issued in pursuance of this act, was obtained surreptitiously, or upon false suggestion, and motion made to the said court, within three years after issuing the said patent, but not afterwards, it shall and may be lawful for the judge of the said district court, if the matter alledged shall appear to him to be sufficient, to grant a rule, that the patentee, or his executor, administrator or assign, shew cause why process should not issue against him to repeal such patent. And if sufficient cause shall not be shown to the contrary, the rule shall be made absolute, and thereupon the said judge shall order process to be issued against such patentee, or his executors, administrators or assigns, with costs of suit. And in case, no sufficient cause shall be shown to the contrary, or if it shall appear, that the patentee was not the true inventor or discoverer, judgment shall be rendered by such court for repeal of such patent; and if the party, at whose complaint the process issued, shall have judgment given against him, he shall pay all such costs, as the defendant shall be put to, in defending the suit, to be taxed by the court, and recovered in due course of law.

SECT. 11. *And be it further enacted,* That every inventor, before he presents his petition to the Secretary of State, signifying his desire of obtaining a patent, shall pay into the Treasury thirty dollars, for which he shall take duplicate receipts; one of which receipts he shall deliver to the Secretary of State, when he presents his petition: and the money, thus paid, shall be in full for the sundry services, to be performed in the office of the Secretary of State, consequent on such petition, and shall pass to the account of clerk-hire in that office. *Provided nevertheless,* That for every copy which may be required at the said office, of any paper respecting any patent, that has been granted, the person obtaining such copy, shall pay at the rate of twenty cents, for every copy-sheet of one hundred words, and for every copy of a drawing, the party obtaining the same, shall pay two dollars: of which payments, an account shall be rendered, annually to the treasury of the United States, and they shall also pass to the account of clerk-hire in the office of the Secretary of State.

SECT. 12. *And be it further enacted,* That the act passed the tenth day of April, in the year one thousand seven hundred and ninety, intitled, "An act to promote the progress of useful arts," be, and the same is hereby repealed. *Provided always,* That nothing, contained in this act, shall be construed to invalidate any patent, that may have been granted under the authority of said act; and all patentees under said act, their executors, administrators or assigns, shall be considered within the purview of this act, in respect of the violation of their rights, Provided, such violations shall be committed, after the passing of this act.

JONATHAN TRUMBULL,
Speaker of the House of Representatives.
JOHN ADAMS,
Vice-President of the United States, and President of the Senate.

Approved,——February 21, 1793:
GEORGE WASHINGTON, *President of the United States.*

An ACT to extend the privilege of obtaining patents for useful discoveries and inventions, to certain persons therein mentioned, and to enlarge and define the penalties for violating the rights of Patentees.

SECT. 1. *Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled,* That all and singular the rights and privileges given, intended or provided to citizens of the United States, respecting Patents for new inventions, discoveries, and improvements, by the act, intituled "An act to promote the progress of useful arts, and to repeal the act heretofore made for that purpose," shall be, and hereby are extended and given to all aliens, who at the time of petitioning in the manner prescribed by the said act, shall have resided for two years within the United States, which privileges shall be obtained, used, and enjoyed, by such persons, in as full and ample manner, and under the same conditions, limitations, and restrictions, as by the said act is provided and directed in case of citizens of the United States. *Provided always,* That every person petitioning for a Patent for any invention, art or discovery, pursuant to this act, shall make oath or affirmation before some person duly authorized to administer oaths, before such Patent can be granted, that such invention, art or discovery hath not, to the best of his or her knowledge or belief, been known or used either in this or any foreign country; and that every Patent which shall be obtained pursuant to this act, for any invention, art or discovery, which it shall afterwards appear had been known or used previous to such application for a Patent, shall be utterly void.

SECT. 2. *And be it further enacted,* That where any person hath made, or shall have made, any new invention, discovery or improvement, on account of which a Patent might, by virtue of this or the abovementioned act, be granted to such person, and shall die before any Patent shall be granted therefor, the right of applying for and obtaining such Patent, shall devolve on the legal representatives, of such person in trust for the heirs at law of the deceased, in case he shall have died intestate; but if otherwise, then in trust for his devisees, in as full and ample manner, and under, the same conditions, limitations and restrictions, as the same was held or might have been claimed or enjoyed by such person, in his

or her life time; and when application for a Patent shall be made by such legal representatives, the oath or affirmation provided in the third section of the be forementioned act, shall be so varied as to be applicable to them.

SECT. 3. *And be it further enacted*, That where any Patent shall be, or shall have been granted pursuant to this or the abovementioned act, and any person without the consent of the Patentee, his or her executors, administrators or assigns first obtained in writing, shall make, devise, use, or sell the thing whereof the exclusive right is secured to the said Patentee by such Patent, such person so offending shall forfeit and pay to the said Patentee, his executors, administrators or assigns, a sum equal to three times the actual damage sustained by such Patentee, his executors, administrators, or assigns, from or by reason of such offence, which sum shall and may be recovered, by action on the case founded on this and the abovementioned act, in the circuit court of the United States, having jurisdiction thereof.

SECT. 4. *And be it further enacted*, That the fifth section of the abovementioned act, intituled "An act to promote the progress of useful arts, and to repeal the act heretofore made for that purpose," shall be and hereby is repealed.

THEODORE SEDGWICK,
Speaker of the House of Representatives.
THOS. JEFFERSON,
Vice President of the United States, and President of the Senate.

Approved—April 17th, A. D. 1800
JOHN ADAMS, *President of the United States.*

An ACT supplementary to an Act, entitled "An Act for the encouragement of Learning, by securing the Copies of Maps, Charts, and Books, to the authors or proprietors of such copies, during the time therein mentioned," and extending the benefits thereof to the arts of designing, engraving, and etching, historical and other prints

SECT. 1. *Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled*, That every person who shall, from and after the first day of January next, claim to be the author or proprietor of any maps, charts, book or books, and shall thereafter seek to obtain a copy-right of the same, agreeable to the rules prescribed by law, before he shall be entitled to the benefit of the act, entitled "An Act for the encouragement of learning, by securing the copies of maps, charts, and books, to the authors and proprietors of such copies during the time therein mentioned," he shall, in addition to the requisites enjoined in the third and fourth sections of said act, if a book or books, give information, by causing the copy of the record which, by said act, he is required to publish in one or more of the newspapers, to be inserted at full length in the title page, or in the page immediately following the title, of every such book or books; and if a map or chart, shall cause the following words to be impressed on the face thereof, viz.—"Entered according to Act of Congress, the ——— day of ——— 18—— [here insert the date when the same was deposited in the office] by A. B. of the state of ——— [here insert the author's or proprietor's name, and the state in which he resides.]

SECT. 2. *And be it further enacted*, That from and after the first day of January next, every person, being a citizen of the United States, or resident within the same, who shall invent and design, engrave, etch or work, or, from his own works and inventions, shall cause to be designed and engraved, etched or worked, any historical or other print or prints, shall have the sole right and liberty of printing, reprinting, publishing and vending, such print or prints, for the term of fourteen years, from the recording the title thereof in the clerk's office, as prescribed by law for maps, charts, book or books: *Provided*, he shall perform all the requisites in relation to such print or prints, as are directed in relation to maps, charts, book or books, in the third and fourth sections of the act to which this is a supplement, and shall, moreover, cause the same entry to be truly engraved on such plate, with the name of the proprietor, and printed on every such print or prints, as hereinbefore required to be made on maps or charts.

SECT. 3. *And be it further enacted*, That if any printseller, or other person what-

soever, from and after the said first day of January next, within the time limited by this act, shall engrave, etch or work, as aforesaid, or in any other manner copy or sell, or cause to be engraved, etched, copied, or sold, in the whole or in part, by varying, adding to, or diminishing from, the main design, or shall print, reprint, or import for sale, or cause to be printed, reprinted, or imported for sale, any such print or prints, or any parts thereof, without the consent of the proprietor or proprietors thereof, first had and obtained, in writing, signed by him or them respectively, in the presence of two or more creditable witnesses; or, knowing the same to be so printed or reprinted, without the consent of the proprietor or proprietors, shall publish, sell or expose to sale, or otherwise, or in any other manner, dispose of any such print or prints, without such consent first had and obtained, as aforesaid, then such offender or offenders shall forfeit the plate or plates on which such print or prints are or shall be copied, and all and every sheet or sheets (being part of, or whereon, such print or prints are or shall be copied or printed) to the proprietor or proprietors of such original print or prints, who shall forthwith destroy the same: and further, that every such offender or offenders shall forfeit one dollar for every print which shall be found in his, her, or their custody, either printed, published, or exposed to sale, or otherwise disposed of, contrary to the true intent and meaning of this act; the one moiety thereof to any person who shall sue for the same, and the other moiety thereof to and for the use of the United States, to be recovered in any court having competent jurisdiction thereof.

SECT. 4. *And be it further enacted*, That if any person or persons, from and after the passing of this act, shall print or publish any map, chart, book or books, print or prints, who have not legally acquired the copy-right of such map, chart, book or books, print or prints, and shall, contrary to the true intent and meaning of this act, insert therein, or impress thereon, that the same has been entered according to act of Congress, or words purporting the same, or purporting that the copy-right thereof has been acquired; every person so offending, shall forfeit and pay the sum of one hundred dollars, one moiety thereof to the person who shall sue for the same, and the other moiety thereof to and for the use of the United States, to be recovered by action of debt, in any court of record in the United States having cognizance thereof: *Provided always*, That in every case for forfeitures hereinbefore given, the action being commenced within two years from the time the cause of action may have arisen.

[*Approved, April* 29, 1802.]

ALPHABETICAL LIST OF

THE NAMES OF PALENTEES,

WITH THE DATES OF THEIR PATENTS.

A.

Anderson, Alex. Sept. 2, 1794. Jan. 26, 1801. Jan. 26, 1801. Aug. 21, 1801. Jan. 26, 1801. Jan. 26, 1801. Aug 21, 1812. Aug. 21, 1812. Oct. 27, 1813.
Allivine, Lawrence. Feb. 24, 1797.
Austin, Cyrus. Dec. 14, 1798.
Abbott, Henry Jan. 24, 1799. May 4, 1802. March 30, 1813.
Allison, Burgiss. May 12, 1802. May 1803. July 6, 1809. April 27, 1809 March 3, 1813. June 28, 1814. Apr. 10, 1818.
Ditto and John Hawkins—Dec. 30, 1802.
Ditto and R. French, June 8, 1804.
Ditto and W. Elliot, March 11, 1819.
Aveilhe, J. J. Baptiste—Mar. 16, 1803 Aug 15, 1802. Aug. 28, 1817.
Alden, Timothy, jun. May 25, 1803
Ashbridge, William. June 28, *ib.*
Alden, Enoch. Nov. 15 *ib.*
Allen, A. D. May 10. May 10, 1804
Ditto. J. Roberts, and E. Kelsey. Sept. 2 *ib.*
Arthur, Daniel. May 4, 1805
Abraham, James. Dec. 20 *ib.*
Adams, Samuel. Dec. 28 *ib.*
Arnold, Thomas. March 5, 1806
Arnold, Josse. Oct. 26, 1807
Ainsworth, Ruben. May 14, 1808
Armour, jun. James. June 27 *ib.*
Apple, Philip. July 13 *ib.*
Atwell, Benjamin. Sept. 19 *ib.*
Adams, Stedman Nov. 21 *ib.*
Adams, R. Dec. 8, 1808. March 27, 1812
Anderson, Levi. March 23 1809
Allen, Phineas. May 13 *ib.*
Ames, O. June 24, 1809. April 25, 1810.
Atwell, Ben. July 18 *ib.*
Ditto and I. Nichols. Oct. 14 *ib.*
Abricks, Jacob. Oct. 11 *ib.*
Applegate, Sam. Thomas Howard, and B. H. Wharton. Nov. 22 *ib.*
Arnold, Josiah. April 14 1810
Antrim, P. and S. Bolton. Nov. 1 *ib.*
Armistead, William. Nov. 13 1810
Arnold, Daniel C. Dec. 15 *ib.*
Abbot, Miles H. Feb. 26 1811
Alger, C. March 30, 1811. May 18, 1814.
Atherton, Daniel. April 26 *ib.*
Andrews, Mark. May 4 *ib.*
Armat, Thomas. May 10 *ib.*
Atkinson, Joseph. Sept. 5 *ib.*
Avery, Alex. H. Sept 30 *ib.*
Anderson, L. and D. April 20, 1812.
Allison, Nath. and Ben. Rugles. June 5 *ib.*
Adam, Paul. June 19 *ib.*
Astolfi, Lawrence. Nov. 20 *ib.*
Achman, John. Dec. 30 *ib*
Alexander, H. Jan. 14. Oct. 27, 1813
Abbet, Henry. March 30 *ib.*
Atwater, Caleb June 2 *ib.*
Anderson, Henry. Oct. 27 *ib.*
Allison, R. and N. S. March 26, 1814
Alder, Joshua W. April 19 *ib.*
Annesley, Robert. April 27 *ib.*
Andrews, J. May 27, 1814. Aug. 11, 1817. Aug. 11, 1817
Averille, Isaac W. Nov. 5 *ib.*
Antrim, Pinder. Nov. 25 *ib.*
Arnold, Samuel. Jan. 25 1815
Allen, Simeon. April 1 *ib.*
Atchison, William. May 23 *ib.*
Ayres, W. and J. Cochran. Oct. 6 *ib.*
Allen, Charles Louis. Oct. 13 *ib.*
Adams, William. March 1 1816
Andrews, James. July 15 *ib.*
Andrus, James. July 30 *ib.*
Annesley, William. Sept. 12 *ib.*
Azam, Pierre. Sept. 24 *ib.*
Adamson, John. Dec. 13 *ib.*
Ayres, William, and Herman Gray. Aug. 13 1817
Allen, Andrew. Dec. 26 *ib.*
Armstrong, Stephen. April 7 1818
Adams, John. April 16 *ib.*
Arnold, Peley Aug. 1 *ib.*
Audler, Ezekiel. Oct. 21 *ib.*
Adams, Daniel. Feb. 3 *ib.*
Ambler, James. May 29 *ib.*

B.

Bailey, Francis. Jan. 29, 1791. July 31, 1809. Oct. 9, 1806.
Brigs, Samuel. August 2, 1791.
Bailey, John. Feb. 23, 1792. March 5, 1810. June 19, 1812.
Biddis, J. & Bedwell Thomas. Aug. 10, 1791.
Batterman, Christ. Jan. 17, 1793.
Brouwer, Sam. Aug. 17, 1793. Nov 27, 1812.

Babcock, Ebijah. Dec. 2, 1795.
Biddis, John. March 31, 1794. May 6, 1800. March 22, 1802.
Byington, Jared. Jan. 15, 1796. Dec. 23, 1796. Jan. 12, 1818.
Bedwell, Thomas. April 20, 1796.
Backus, Elijah. May 31, 1796.
Brunel, Marc Isambard. Nov. 16, 1796. April 27, 1798. January 17, 1799.
Bourke, Theobald. Nov. 16, 1796.
Bigelow, John. Nov. 19, 1796.
Booker, William. March 11, 1797.
Betts, Silas. March 18, 1797.
Briggs, Nathaniel. March 28, 1797. June 17, 1809. October 13, 1813.
Burt, Walter. June 23, 1797.
Bruff, Thomas. July 1, 1797. Jan. 8, 1798. Sept. 14, 1801. July 24, 1807. Oct. 5, 1808. June 4, 1813.
Blydenburg, Samuel. March 22, 1798. Sept. 12, 1810.
Brewster, Walter. June 7, 1798.
Banks, William. Dec. 14, 1798.
Bolitho, Ben. Feb. 7 1800
Brown, Jer. May 14 *ib.*
Butler, Frederick. Aug. 22 *ib.*
Brookfield, Aaron. Oct. 24 *ib.*
Bedwell, Thomas, and Ben. Henfrey. Feb. 12 1801
Baker, I. May 8, 1805. Feb. 20, 1802
Briggs, Samuel, jun. Oct, 24 ib.
Bell, Wm. and J. S. De Montmollin. April 7, 1802. Ditto. Mar. 7, 1803.
Betts, Hezekiah. May 3, 1802. Ditto. Sept. 13, 1803. Aug. 29, 1804.
Boureau, Nicholas. August 30, 1802. Aug. 21, 1804.
Bartlett, Elisha Olive Otis and George. February 17, 1803
Bent, Silas. March 7 *ib.*
Brewer, Daniel. April 22 *ib.*
Beebe, Eliphalet. April 27 *ib.*
Barney, Mathew. May 4 *ib.*
Biddis, John, T. Bedwell, and W. Mitchell. June 7 *ib.*
Brown, Sam. and E. and T. West. July 8 *ib.*
Bell, William. Nov. 24, 1803. Nov. 25. Nov. 25,
Buckman, David. Dec 21 *ib.*
Beverley, John. Dec. 26 *ib.*
Beatley, Leonard. Jan. 19 1804
Benger, Thomas. Jan. 25 *ib.*
Barnett, Thomas. Feb. 21 *ib.*
Bolton, John, jun. Sept. 29 *ib.*
Brown, Abel. October 17 *ib.*
Bellows, Jos. jun. and E. White. Dec. 29 *ib.*
Bennock, John. June 1, 1805
Bartlet, Sam. Oct. 1, 1805. July 19, 1808. Jan. 15, 1809.
Belly, Seraphim. Nov. 7 *ib.*
Bennet, Philip. Feb. 8, 1806
Bryant, E. Jan. 13, 1806. March 18, 1818. March 28, 1820.
Burr, Theodore. Feb. 14 1806
Buck, R. May 29, 1806. June 23, 1807.
Brown, Levi. May 30 ib.
Bedford, John. July 16 ib.
Brown, David, jun. Feb. 5 1807
Beath, John. Feb. 7 ib
Button, Richard. Feb. 11 ib.
Buffum, Arnold. Feb. 21 ib.
Burtis, Barent and Gersham. Feb. 27 ib.
Bigelow, E. April 1, 1807. Jan. 29, 1817.
Beatty, T. April 25, 1807. Oct. 5, 1818.
Bevit, Enoch. June 23 ib.
Beach, C. June 26, 1807. Nov. 20, 1809.
Butland, James. Nov. 12 ib.
Blake, Anson. Nov. 27 ib.
Bernard, Benjamin B. Nov. 30 ib.
Bouscherie, Antoine. Jan. 8, 1808 Jan. 30, 1809. Jan. 31, 1809
Barnum, Eli. Jan. 9 ib.
Bent, Wm. Feb. 24, 1808. Sept. 9, 1813.
Barnum, Eli, and B Brooks, March 21, 1808. July 13, 1808.
Barnet, Oliver, jun. March 23 ib.
Bailey, John, jun. May 14 ib.
Barber, Sam. and N. U. Thompkins. June 1 ib.
Burt, David. June 22 ib.
Brewster, A. July 11, 1808. July 15, 1813.
Bolton, John. Aug. 2 ib
Barker, Wm. Aug. 26, 1808. Aug. 12, 1815. Nov. 10, 1818.
Bishop, G. Sept. 7, 1808. April 17, 1809.
Burtis, William Oct. 3 ib.
Brown, Wm. Dec. 8, 1808. Nov. 20 ib.
Bennett, Isaac. Dec. 12 ib.
Badger, W. Dec. 26, 1808. Feb. 16, 1809.
Blanchard, James. Jan. 14, 1809
Bolton, Samuel. Jan. 16. July 7, ib.
Berrian, Richard. Feb. 13 ib.
Blodget, Azial. Feb. 16 ib.
Barnett, John. March 3 ib.
Beecher, John. March 18 ib.
Buckman, William. March 23 ib.
Bachelor, Lemuel. April 24 ib.
Broad, A. June 14, 1809. June 6, 1814.
Brown, George. June 16 1806
Bartholomew, Truman. June 17, ib.
Bissel, Luther. June 27, 1809. June 7, 1811. July. 3, 1813.
Barrett, William. June 27 ib.
Bernard, P. July 7, 1809. Nov. 17, 1810; Jan. 16, 1811

Balcomb, Jacob. July 13 1806
Bakewell, W. L. Aug. 18 ib.
Barlow, Jonathan. Aug. 23 ib.
Bisbee, Isaiah. Nov. 20 ib.
Belknap, S. Dec. 28, 1809. April 8, 1814.
Barber, Oliver. Jan. 8, 1810
Barnum, T. S. Jan. 18, 1810. Jan. 15, 1812.
Baldwin, Sylvanus. March 17 ib.
Beck, J. & J. Coppinger. Mar. 19 ib
Beach, Joseph. March 30, 1810. Jan. 24, 1811.
Battle, M. April 2, 1810. March 27, 1812. Ditto.
Brown, Ephraim. April 10 ib.
Brainard, J. April 16, 1810. Oct. 4, 1817.
Bernard, Cromwell. April 17 ib.
Bremler, F. April 24, 1810. Jan. 21, 1812. Aug. 22, 1816
Basford, E. & E. Johnson. Apr. 28, ib.
Basford, Ebenezer. April 28 ib.
Bennett, Morris, jun. May 1 ib.
Burke, H. June 18, 1810. May 25, 1811
Buel, Samuel. July 7 ib.
Bogenreiffe, Valentine. July 10 ib.
Bacon, Ephraim. July 26 ib.
Black, Jeremiah. Aug. 2 ib.
Bernard, P. and T. Soper. Jan. 16 1811
Burley, Nath. Jan. 24 ib.
Binny, Archibald. Jan. 29, 1811. Feb. 4, 1811. May 17, 1814. ib.
Bacon, Samuel. Feb. 9 ib.
Belknap, Stephen and Sam. Merrill. Feb. 15 ib.
Beach, William. Feb. 19 ib.
Blanch, Noel. March 2 ib.
Boynton, John. March 30 ib.
Baley, W. April 10, 1811. Feb. 4, 1817.
Barber, Joseph. April 10 ib.
Bernard, Joseph. April 10 ib.
Balthrope, John. May 22 ib.
Bascom, Harvey. June 10 ib.
Baxter, John George. June 22 ib.
Bergh, C. and S. Schermerhorn, jun. July 2 ib.
Butler, Anthony. Nov. 7 ib.
Bell, Benjamin. Nov. 7 ib.
Barrett, O. jun. Dec. 3. Dec. 8 ib.
Bouis, J Jan. 6, 1812. Dec. 30 1812
Barker, Joseph. Jan. 10 ib.
Beale, Josiah. Jan. 15 ib.
Belknap, M. B. Jan. 16, 1812. June 13, 1812.
Brewster, Gilbert, Guy Trumbull, and James Mather. January 16 ib.
Brown, Geo. M. Adams. Mar. 19 ib.
Baldwin, Sylvanus, and E. Town. May 6 ib.
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Brown, John Aug. 8, 1812. May 12, 1813. Feb. 24, 1815. June 12, 1818. July 22, 1819.
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Bostick, Gersham. Sept. 28 *ib.*
Booth, George. Oct. 13. Do. *ib.*
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Bates, John. Jan. 26 1813
Bains, Allen, Sam. Gray and Japez Clark. Feb. 3 *ib.*
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Bronough, J. W. and J. Talbot. March 16 *ib.*
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Blanchard, Thomas May 4, 1813. Sept. 6, 1819. Sept. 6, 1820.
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Bissel, L., J. Hinman and Benoni Gains. June 19 *ib.*
Broad, J. June 25, 1813. Nov. 4, 1813. March 1, 1814.
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Burnham, A. and T. S. Barnum. Dec. 31 *ib.*
Brush, J. C. Jan. 28, 1814. Aug. 19, 1819.
Bryant, Eben. Feb. 8, 1814. Mar. 18, 1818. March 28, 1820.
Baker, Peter. Feb. 19 *ib.*
Briggs, Daniel. Feb. 19, *ib.*
Butler, John and James. Mar. 1 *ib.*
Brown, Brightberry. March 21 *ib.*
Brown, Sidney B. April 2 *ib.*
Blocker, John. April 12 *ib.*
Breasted, Peter. April 18 *ib.*
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Barber, Oliver. May 13 *ib.*
Beale, Thomas. May 28 *ib.*
Briggs Joseph. July 9 *ib.*
Bronson, H., and J. Curtis. Aug. 22, *ib.*
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Bronson, Salmon. Nov. 25 *ib.*
Browning, Samuel. Nov. 25 *ib.*
Beaumont, James. Dec. 3 *ib.*
Bruff, John. Dec. 16 *ib.*
Bonlu, Augustus. Dec. 24 *ib.*
Birkhead, Levin. Dec. 30 *ib.*
Brown, Enos. Jan 23 1815
Burk, Aaron. Feb. 11 *ib.*
Blydenburg, Samuel, and H. Healy. Feb. 20 *ib.*
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Bissel, Luther, Luke C. Hinman, and Stephen Hinman. July 17 1815
Brush, Mary. July 2 *ib.*
Bartholomew, E. and Daniel H. Miller. Aug. 18, 1815. Ditto. *ib.*
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Bryan, Johiel and John. Aug. 26 *ib.*
Borton, Edward. October 14 *ib.*
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Barron, J. July 18, 1816. Jan. 12, 1819. Feb. 20, 1819.
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Beckwith, Josiah. May 16 *ib.*
Bliss, Jeroma. June 17 *ib.*
Briggs, Samuel and Isaac. May 28 *ib.*
Bazin, [illegible]. and James A. Oct. 20 *ib.*
Busby, Charles Augusta. Oct. 25 *ib.*
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Black, J. Jan. 17 1818. April 23 1819
Brookes, Edw. Jan. 28 1818
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Boneville, Michael H. Nov. 17 *ib.*
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Bullum, Arnold, and Jer. Kelly. Feb. 17 *ib.*
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Cruse, Englehart. Aug. 26, 1791.
Caldwell, James. Jan. 26, 1793.
Colls, Christopher. Jan. 26, 1793.
Carnes, John, jun. April 11, 1793.
Clarke, John. Aug. 13, 1793. May 19, 1803.
Cox, Zacharia. March 14, 1794.
Cliff, Peter. Nov. 16, 1796.
Chandler, George. Dec. 12, 1796.
Curtis, Jonathan W. Aug. 24, 1797.
Clark, Aaron. March 30, 1798.
Cooley, S. June 6, 1798. Nov. 2, 1803.
Colver, Steven. Dec. 14, 1798.
Chase, Heviland. Dec. 15, 1799.
Constant, Silas. Feb. 4 1800
Cox, James. Feb. 20 *ib.*
Cooley, David, jun. and G. N. Philips, Aug. 29,

Cannon, John. Jan. 17, 1801
Clymer, George. Dec. 22 *ib.*
Condit, Joseph, jun. Dec. 28 *ib.*
Claiborne, Richard. Feb. 23 1802
Coates, Moses. April 1, 1802. Feb. 14, 1803
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Caruthors, William. Dec. 13 *ib.*
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Cooly, Benjamin. Feb. 1 1803
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Camp, Samuel, jun. July 1 *ib.*
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Coates, Moses, and Evan Evans. April 30 1804
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Copes, Joseph. May 2 1805
Crane, Robert, jun. May 4 *ib.*
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Cutting, Nath. July 14. Aug. 14 *ib.*
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Colvin, Charles. April 1, 1807
Craig, Alex. April 15 *ib.*
Cleaveland, Josiah. June 6, 1807. July 18, 1807. Oct. 22, 1816.
Crawford, Obadiah. June 22 *ib.*
Connor, Ben. July 20, 1807. Aug. 26, 1813.
Cutler, Buel. Oct. 3 *ib.*
Cady, Eleazer, jun. March 9, 1808
Cohoon, T. April 11, 1808. April 13, 1808. April 14, 1808. Jan 5, 1811. Jan. 25, 1813.
Coolidge, William. April 18 *ib.*
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Cob, David. April 25 *ib.*
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Chandler, A. and Samuel Shepard. Sept. 18 *ib.*
Cobb, G. Sept. 7, 1808. April 24, 1809.
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Chamberlain, Samuel. Nov. 21 *ib.*
Cheneweth, Richard B. Nov. 25 *ib.*
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Chappel, Richard S. Jan. 18, 1809
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Cook, Elisha. Jan. 20 1810
Comfort, Joseph. Jan. 25 1811
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Cutter, Ephraim. Feb. 12, Sept. 27, 1811. Feb. 4. 1813.
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Currey, Samuel. April 24 *ib.*
Cooley, D. June 18, 1810. Oct. 24, 1814
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Cooley, Abiel, A. July 18 *ib.*
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Cleveland, Lewis. Feb. 7 *ib.*
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Crosbie, Richard. Jan. 6. Feb. 17 1812
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Confield, Russel. May 1 *ib.*
Convis, Edward Morris. May 6 *ib.*
Cunningham, J. and Sam. Edmonston. June 22 *ib.*
Clark, S. and N. Kirk. July 18 *ib.*
Cornell, Gideon, July 22 *ib.*
Cooper, C and G. Shaake, Aug. 22 *ib.*
Cox, John Redman. Oct. 16, *ib.*
Christy, Robert. Nov. 21, *ib.*
Cavrier, Amri. Nov. 2 1813
Church, Eli. March 18 *ib.*
Chambers, Joseph C. March 23 *ib.*
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Comstock, S. and M. Pike. April 15 *ib.*
Cabell, J. I. May 28, 1813. June 10, 1814.
Chevens, Henry. July 13 *ib*
Churchman, Caleb and Geo. Martin, jun. July 16 *ib.*
Carrington, D and I. Ives. Aug. 20 ib.
Corkings, Ezra B. Oct. 8 ib.
Coleman, John. Dec. 31 ib.
Carleton, Jedediah. Jan. 21 1814
Coulter, J. and S. Gano. April 18 ib.
Cooper, David. May 12 ib.

Coleman, E. B. May 13 1814
Curtis, Joel. August 22 ib.
Curtis, J. and D. Bradley. Aug. 22 ib.
Carman, James. Oct. 12 ib.
Craig, Seth. October 18 ib.
Chappins, John Francis. Nov. 8 ib.
Cornwall, William. Dec. 15 ib.
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Calden, Cad. D. May 19. June 2 ib.
Cooper, C. and G. Shalk. May 31 ib.
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Cornell, A. and Hiram K. Cornell. Jan. 15 1816
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Charters, George. July 8 ib.
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Chapman, Samuel. Aug. 30 ib.
Chandler, Stephen. Sept. 20 ib.
Cromwell, John. Oct. 23 ib.
Cruse, Englehart. Nov. 18 ib.
Cornwell, William. Dec. 14 1816
Cromwell, Charles. Jan. 27 1817
Christman, Daniel. Feb. 8 ib.
Cohoon, and Elliot. April 12 ib.
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Collins, James. June 10 ib.
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Collins, Daniel. Jan. 6 1818
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Clere, H. and P. Ricardi. May 25 ib.
Church, William. July 11 ib.
Clark, James. July 31. Nov. 30 ib.
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Colbert, Robert. March 17 1819
Caze, James. March 18 ib.
Cook, David. April 16 ib.
Clarkson, William K. June 26 ib.
Craft, George B. Oct. 9 ib.
Cummings, Jacob A. Nov. 3 ib.
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Dickerson, J. July 30 1791. Feb. 9, 1796.
Dove, Samuel G. Oct. 20 1792
Dorr, Jonathan. Oct. 23 ib.
Davenport, James. Feb. 14 1794
Drake, James. May 9 ib.
Davis, J. April 14, 1796. May 18, 1810.
Dawson, Robert. May 12 1796
Dellet, James. Dec. 23 1796
Du Val, B. May 3, 1797. Feb. 14, 1799. Oct. 29, 1804. April 26, 1808.
Dulhuier, Henry. Aug. 18 1797
Dixey, John. Jan. 24 1798
Dearborne, B. Feb. 14, 1799. April 30, 1799. Apr. 26, 1808. June 20, 1816. March 24, 1819.
Duty, Andrew W. May 8 1799
Deneale, J. J. July 10, 1800. Nov. 20, 1804. Dec. 4, 1806. July 1, 1809.
Downing, S. June 12, 1801. April 19, 1802. June 12, 1802.
Du Pre, L. May 12, 1802. Feb. 3, 1807
Du Buc Marentille, Abram. Dec. 23, 1802. March 18 1803
De la Bigaree, Peter I. B. M. Pecornele. March 24 ib.
Day, Agustus, Wm. Bache and I. Todd June 15 ib.
Dyer, W. B. Feb. 27 1804
Dean, Daniel S. Feb. 29 ib.
Daniel, Phineas. March 31 ib.
Deaver, John. July 12 ib.
Du Pont de Nemours, E. I. Nov. 23 ib.
Deane, William. Nov. 4 1805
Dexter, G. B. Dec. 18, 1805. Oct. 9 1806
Dickey, Samuel. March 7 ib.
Dawson, James. Nov. 6 1806
De Miroth, Lewis. Feb. 3 1807
Dunlap, Henry. April 23, 1807. August 27, 1812.
Dorr, Russel. May 8 *ib.*
Dodge, Jordon. July 8 *ib.*
Dodge, Samuel. Feb. 9 1808
Dana, S. W. Aug. 30 ib.
Devotie, John. Dec. 5 ib.
Dickerman, Hez. Dec. 27, 1808. May 9, 1809.
Dotterer, Henry. Feb. 16, 1809. May 1, 1810.
De Reimer, Samuel. May 15 1809
Dewey, D. June 27, 1809. July 5 1813. Dec 7, 1813. Mar 16, 1818.
De. Savignac, P. A. July 13 ib.
Decatur, S. and W. Tatham. Oct 11 ib.
Dyster, Joseph Joshua. Feb. 23 1810. Feb. 9, 1820.
Drury, Winsor. March 19 1810
Downer, Elisha. April 11 ib.
David, John. May 5, ib.
Dow, P July 12, 1810. Aug. 15, ib.
Day, Augustus. Jan. 19 1811
Dewey, Shermon. March 2 ib.
Dunlap, Andrew. May 3 ib.
Dungan, David. May 23 ib.
Dana, Jacob A. July 23 ib.
Decker, Jacob. Sept. 2 ib.
Dod, Dan. Nov. 29, 1811. May 12, 1812. Feb. 2, 1813. ib.
De Lacy, John D. March 28 1812
Dudley, Ambrose. March 31 ib.
Dunn, W. April 1, 1812. April 8 1813.
Davidson, John. April 3 ib.
Dickerson, Lemuel July 18 ib.
De Silver, Robert. Sept. 14 ib.

Denison, Erastus. Dec. 30 1813
Dempsey, Stephen. Feb. 4 ib.
De Witt, Simon. April 30 ib.
Drummond, John. July 14 ib.
Durring, Edmond. Jan. 21 ib.
Deane, Ezra January 13 ib.
Derby, Joseph H. March 26 ib.
Dowers, John, jun. April 28 ib.
Davey, Jacob April 7 ib.
Duprey, Joel M. April 13 ib.
De Butts, Elisha. May 5 ib.
Dexter, Willaby. May 17 ib.
Dudley, Luther. May 27 ib.
Deering, Richard. May 28 ib.
Dunham, D. June 28, 1813.
Davis, William. January 24 1815
Duncan, William and J. Davidson. May 29 ib.
Densmore, A. July 29 Ditto. ib.
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Donaldson, Richard A. and J. L. Wheeler. Sept. 25 ib.
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Du Commun, Joseph Feb. 10 ib.
Drake, G. Mar. 14 1816. Feb. 28 1817. Oct. 26 1818.
Dalmas, Charles. April 26 1816
Derby, Joseph H. April 30 ib.
Dalie, Silas. May 28 ib.
Draper, Isra. June 7 ib.
Davis, S. Jan. 22 1817 Mar. 28 1818
Detroismonts, Louis D. April 5 1817
Dearborn, John M. May 3 ib.
Darmand, Charles. Aug. 7. ib.
Dow, P. and D. Treadwell. Aug. 8 ib.
Durand, J. P. Oct. 3 1817. Jan. 17 1818.
Donaldson, Alexander. Jan. 15 1818
Durand Cyrus. March 17 ib.
Deprest, Renner, Lt. May 9 ib.
Davis, G. May 26, 1818. May 26 ib.
Dwight, J. and Sullivan. July 17 ib.
Deverin, J. and Baptiste Isabelle. July 6 ib.
Dana, Dow, and A. Olney. Aug. 24 ib.
Drummond, James. Aug 27 ib.
Dayton, Giles, jun. March 18 1819
Decker, Israel April 3 ib.
Dexon, Peter. July 16 ib.
Deming, George. July 22 ib.
Draper, Simeon. Aug. 26 ib.
Duplat, Marc Marie. March 16 1820
Day, Henry and Jacob. April 4 ib.

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Evans, Oliver. Dec. 18, 1790. May 28, 1796. Jan 16, 1800. Feb. 14, 1804. Jan. 22, 1808. April 15, 1811.
Ellicot, Joseph. March 25, 1795,
Eaton, James. Feb. 16, 1796
Elliot, Richard. Nov. 16, 1797
Ellis, Wm. June 26, 1799
Ellicott, David. May 1, 1801.
Eveleth, John. June 13, 1801. Feb. 27, 1806. April 23, 1811.
Ellicott, Ben. May 12, 1802.
Eve, J. Dec. 6, 1803. May 28, 1818.
Earl, Pliny. Dec. 6 1803
Elgar, Joseph. Dec. 16 ib.
Eaton, Jos. April 14 1804
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Eggleston, Ben. jun. May 27 1805
Edward, John. May 19 1806
Ellis, Jon. Feb. 10 1807
Elliot, Richard R. Feb. 28 ib.
Erwin, Hazen. Dec. 28 1808
Elgar, Jos. sen. and John Elgar. September 1, 1806
Ellis, Sam. November 25 ib.
Elliot, Jon. Jan 8, 1810. Feb. 15, 1811.
Easton, Peleg. Feb. 1 1810
Easterly, George. February 5 ib.
Ennalls, Joseph. April 10 ib.
Eaton, William. Oct. 29 ib.
Eastman, Abicather. April 8 1811
Ellis, Abner. June 6 ib.
Evans, Jonathan. Jan. 6 1812
Elliot, James, jun. May 26 ib.
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Edmonston, Sam. S. Sept. 1, 1813. April 3, 1819.
Earl, Willard. September 3 ib.
Ewing, John, and David Dickey. October 2 ib.
Ewell, Thomas. Dec. 7 ib.
Eckstein, F., and J. M'Ilhenney. October 12 1814
Eaton, Theophilus. December 7 ib.
Elgar, N. June 19, 1815. July 25 1815
Elgar, John. June 21 ib.
Ebert, John. September 8 ib.
Enters, Lewis, and Wm. Zigler. September 28 ib.
Ellicot, Thos. February 17 1816
Eels, Samuel. February 24 ib.
Elder, John. April 11 ib.
Ewing, John. April 30 ib.
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Edwards, John. August 22, 1816. Nov. 19, 1816. May 25, 1818. February 17, 1820.
Ellicott, George. September 20 ib.
Ewings, James. Feb. 10 1817
Eagleson, Wilk. R. October 4 ib.
Elliot, Rufus. February 14 1818
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Eastman, Cyrus. April 16 ib.
Evans, John. April 21 ib.

Everard, Francis A. April 28 1818
Ellicott, Evan J. April 28 ib.
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Fitch, John. August 26, 1791
Folger, B. Jan 2, 1799. July 17, 1804
Farrington, T. May 9, 1792
Fennel, James. September 24, 1794
Fowler, John. Nov. 16, 1796. Jan. 4, 1810. Feb. 24, 1797.
Frobisher, Wm. Nov. 17, 1796.
French, D. Dec. 23, 1796. July 25, 1803. Oct. 9, 1805. Oct. 12, 1809. Aug. 22, 1810. April 23, 1817.
Frost, Jason. Dec. 23, 1796
Faris, Wm. April 29, 1797. May 17, 1799.
Fling, Lester. December 19, 1797.
Fairman, G. and J. Hutton. Jan. 8, 1802.
Fobes, N. Aug. 2, 1802. Dec. 31, 1804.
French, Rich., and J. J. Hawkins. May 17 1803
Frost, Abraham. March 19 1804
Folger, Laban. November 1 ib.
Fairbanks, John. Nov. 30, 1803. April 21, 1808. Aug. 14, 1810.
Forger, Michael. May 10 1805
Folson, Wm. J. and John Hayden. Dec. 17 ib.
Finn, William. February 13 1806
Fales, Charles. February 11 1807
Fisher, Abraham. February 19, ib.
Fox, Joel, jun. February 25 ib.
Freytag, Michael. July 1 ib.
Frothingham, Sam, and G. Harris. April 20 1808
Flower, William. May 14 ib.
Finley, James. June 17 ib.
Frost, Esa. September 21 ib.
Fourestier, Eli. November 17 ib.
Farnham, Joseph. November 23 ib.
Fulton, R. and N. Cutting. Mar. 4 ib.
Farnham, Joel. January 7 1809
Fulton, Robert. Feb. 11, 1809. February 9, 1811.
Fales, James. February 22 ib.
Few, William. March 1 ib.
Foster, Nathaniel. June 28, 1809. July 8, 1813.
Freeman, Timothy. June 30 ib.
Faria, Atkinson. Dec. 5 ib.

Gordon, Peter. August 10, 1791
Green, Samuel. March 28, 1792
Grant, Robert. October 1796
Garretson, Isaac. Nov. 16, 1796. May 29, 1797.
Greive, David. June 8 1797. Feb. 13, 1801. April 14. Sept. 18, 1818.
Eames, Thomas. April 29 1818
Eastman, Robert, and Jos. Jaquitt. March 16 1820

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Ford, Ebenezer. Dec. 21 1809
Farwell, Leonard. March 5 1810
Fairbank, Benjamin. March 5 ib.
Flagg, Josiah and Jos. Flagg, jun. May 17 ib.
Fairchild, Reuben, and Ebenezer. June 1 ib.
Frisbie, Jeremy. June 30 ib.
Foster, Ben. Daniel, Washburne, Northorp Rockwell, and J. O. Walker, Aug. 16 ib.
Fuller, Sal. Feb. 19, 1811. Nov. 14, 1814.
Ferris, Thomas. Aug. 20, 1811 ib.
Freman, Erastus, V. April 10, ib.
Ford, J. and J. White, Nov. 25, ib.
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Fessenden, W. G. Oct. 20, ib.
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Fitch, Samuel. Oct. 29 ib.
Fryumuth, Benjamin E. Dec. 22 ib.
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Fairlamb, Samuel. Oct. 24, ib.
Farrington, Elijah. Oct. 26. ib.
Fountain, D. and M. April 5, 1817
Francis, Wm. July 11, ib.
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Fettrow, Andrew. May 28, ib.
Farnham, Henry. Sept. 5, ib.
Finigan, James. Oct. 8, ib.
Foster, Aaron. Nov. 25 ib.
Fraser, W. L. March 19, 1819
Fahnestock, Samuel. April 23, ib.
Foster, A. W. and J. Hugus, April 26 ib.
Forrester, Lot. May 15 ib.
Field, Henry. June 17 ib.
Fulton, Cardiner. Aug 21 ib.
Foot, Nison. October 28 ib.
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Gould, Chester. May 27, 1799
Gebhard, John G. Feb. 4 1800
Gorham, Stephen. Feb. 4 ib.
Grout, Jonathan, jun. Oct. 24 ib.
Guest, H. Jan. 16, 1801 Jan. 26 1801

Garber, Michael. Feb. 29 1801
April 17, 1804
Green, Caleb. July 23 ib.
Greenleaf, John. July 13 1802
Groves, Mathew C. Sept. 3 ib.
Gorton, Benjamin. Nov. 29 ib.
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Godfrey, John W. May 25 1803
Geanty, Lewis. Aug. 4 ib.
Goodwin, Sam. October 31, 1803.
July 7, 1809.
Gilman, Ward, and Wm. Jackson.
March 19 1804
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Geyssenheyner, F. W. Dec. 22 ib.
Guy, Francis. Dec. 30 1803. Feb.
22 1819
Glover, Simeon. May 4 1805
Goodwin, Sam. and Rich. Gaines.
January 22 1806
Gookins, Richard. January 24 ib.
Gould, John F. March 1, 1806.
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Guild, Abner. March 31 ib.
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Green, Timothy. April 1 1807
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Gedney, Robert. June 26 1809
Groff, Philip. December 16 ib.
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Gillespie, Robert. April 2 ib.
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Granger, William. September 6 ib.
Graham, A. Nov. 6. Nov. 21 ib.
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Greswold, C. and M. A. Potter.
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Gamble, William. April 18 1811
Gregg, James. May 7 ib.

Gibson, Edward. May 10 1811
Gorsuch, William. Aug. 17 ib.
Gehbe, Earnest. October 18 ib.
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Gaston, Charles. January 31 ib.
Gillet, N. and J. Smith. April 8 ib.
Gore, Samuel K. May 4 ib.
Geiger, Paul. May 12 ib.
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Gibbs, Abraham. August 31 ib.
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Gleason, James. March 7 ib.
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Getzendanner, Jacob. Sept. 30 ib.
Goodwin, Wm. and Jonathan, jun.
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Gillespie, Robert. January 31 1815
Griffing, Edward C. August 10 ib.
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Gates, John M. September 14 ib.
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Green, Allen, sen. March 5 1816
Goodsell, Naman. June 13 ib.
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Gilpin, Thomas. December 24 ib.
Griffith, Sam. February 1 1817
Griswold, Ira. April 16 ib.
Grandval, H G De. October 3 ib.
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18 1818.
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Gregg, James and Joseph. May 23 ib.
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Gray, Salmon. July 15 ib.
Guttwaldt, Joseph Alois. Aug. 27 ib.
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Goodrich, Lemuel, and J. Adams.
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Heterick, Robert. June 11, 1793.
June 30, 1803.
Hodgson, William. April 28 1794
Hathaway, John. Oct. 24, 1794.
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Hillard, Joseph. May 12 1796
Holmes, Hodgen. May 12 ib.
Hirst, Thomas. March 11 1797
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Hamlin, Samuel Ely. Aug. 30 1799
Holden, Charles. March 15 1798
Hunt, Jonathan. June 7 ib.
Huntley, Joseph. January 10 1799
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Hawkins, John J. Feb. 12, 1799.
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Hoyt, Comfort, jun. April 7 ib.
Hottenstein, Wm. April 10 ib.
Howard, Dean. April 10 ib.
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Harrison, Thomas O. May 19 ib.
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Henfrey, B. Mar. 2, 1801. April
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Hatch, Israel. March 24 ib.
Hoxie, Christ. August 20, 1801.
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Hathaway, Rufus. Jan. 28 1802
Holly, John W. March 27 ib.
Hutter, Christian J. February 11 1803
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How, William. April 6 ib.
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Harington, Wm. August 28 ib.
Hooker, John. November 19 ib.
Houston, John. May 4 1805
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Hawkins, Sam. February 19 ib.
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Heavin, John. April 17, 1806. May
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Hale, William. February 7 1807
Hardenbrook, Abel W. Feb. 10 ib.
Hobert, Abraham. Feb. 17 ib.
Hale, Ezekiel. February 22 ib.
Hammond, Charles. May 6 ib.
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Hackley, Philo M. Jan. 11, 1811.
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Hancock, Robert, jun. and E. Carr.
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Hollin, Luther. September 10 ib.
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Hunt, Melzer, and Cotton White. June 15 ib.
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Hoffman, Isaac. December 31 ib.
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Hill, Wm. F. Oct. 15, 1814. July 11, 1818.
Harrison, Thos. and R. Pierpont. October 18 1814
Hills, Samuel, and M. Emery, jun. October 21 ib.
Hart, Naphtali. October 21 ib.
Hall, James. Nov. 19, 1814. Nov. 27, 1815.
Hatch, John. May 1 1815
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Hall, Joshua. December 27 ib.
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Hurdle, Noble. October 1 ib.
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Hayward, Ansel. November 23 ib.
Headley, Joseph. February 3 1819
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Hiatt, Zachariah. August 20 ib.
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Hackley, Harvey. April 21 ib.

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Ilsley, Daniel. May 14 1803
Ives, Ira. April 14, 1808. June 24, 1809. Feb. 24, 1812. May 19, 1812. June 13, 1814. Aug. 7, 1815. Oct. 25, 1815.
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Ives, Fitch. July 5 1808
Isaacs, M. and J. Willbank. Oct. 14 1817
Isaacs, M. March 17, 1818. May 18, 1818. Nov. 17, 1819.
Johnson, Moses. June 30 1797
Jervis, Bill. July 8 ib.
James, George. November 16 1796
Jocelin, Simeon. May 8, 1800. July 13, 1809.
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Janes, Seth. December 31 1804
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Kent, Nathan. May 1 1801
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Kennedy, Leonard. Sept. 7 1802. April 26 1808.
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Kent, Emanuel. Sept. 14 1804
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King, Nicholas. March 10 1808
Kilborne, Robert. April 12 ib.
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Kies, Mary. May 5 1809
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Lee, Sam. H. P. June 26 1799. Feb. 8 1814.
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Lee, Mar. and T. Barber. Oct. 1, ib.
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Large, D. and F. Grice. Nov. 12 ib.
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Latour, Louis M. Feb. 16 1813
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Long, S. I. and Geo. F. H. Hauto. September 3 ib.
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Loring, Daniel. Dec 31 ib.
Lewis, Wm. J. Feb. 1 1814. Feb. 1, 1816.
Lineback, John. March 31 ib.
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Lupton, John. July 31 ib.
Laighton, L. M. & Mark. Sept. 1 1817
Langworthy, Wm. A. Feb. 28 1818
Lotz, John H. March 18 ib.
Lete, Nicholas A. June 11 ib.
Leaming, Sam. M. July 6 ib.
Lamb, James. July 17 ib.
Little, Joseph. July 25 ib.
Lewis, Nath. H. Aug. 26 ib.
Leonard, Wm. B. Jan. 9 1819.
Lewis, Wm. J. Feb. 3 ib.
Lloyd, Joseph. March 2 ib.
Lyon, James. April 3 ib.
Lansing, John, jun. April 30 ib.
Langdon, B. and J. C. June 5 ib.
Lamb, Joshua. August 21 ib.
Lucas, Jonathan, jun. Nov. 6 ib.
Lynar, Anthony. Dec. 24 ib.
Lick, Charles. Jan. 22 1820
Lamb, John. March 18 ib.
Lowerec, Wm. R. March 29 ib.

M.

Mullikin, Sam. March 11, 1791. Jan. 15, 1795. Feb. 20, 1797. Feb. 11, 1807.
Macomb, James. August 26 1791
Morris, Geo. July 10 1792
Morey, S. Jan. 29 1793. Mar. 25 1795. April 11 1796. March 27 1799. April 24 1799. Nov. 17 1800. April 8 1812. June 18 1813. July 14 1815. Mar. 13 1817. Dec. 11 1817. Jan. 19 1819. Jan. 20 1819.
Markley, John. July 16 1794
M'Lean, James S. May 27 1796
M'Kechnie, Lundin. July 1 ib.
Mangin, Joseph F. July 2 1796. February 16 1797.
Murray, John. Dec. 23 ib.
M'Calmont, James. Feb. 20 1797
Martin, John. Nov. 21 1797. April 27, 1798. Jan. 5 1820.
M'Kean, Robert. March 24 1798
Manning, John. April 10 ib.
Martin, Thomas C. June 2 ib.
M'Farland, Moses. October 29 1799
Mansfield, Rich. October 24 1800
Morton, John A. Dec. 16 1801. July 21 1815.
Miller, Ezekiel. July 19 1802
Miller, Martin. July 19 ib.
Morre, Thos. January 27 1803
Moffat, John. February 1 ib.
Marquam, Edw. March 28 ib.
Morse, David. June 10 ib.
Morey, Samual, R. Graves, and G. Richards. June 15 ib.
Minor, Amos. November 16 ib.
Miller, Nath. and P. W. June 5 1804
Miller, Dan. M. Mar. 5; Mar. 8 ib.
M'Mullin, Dan. and T. M'Corby.
M'Bride, John. August 8 1805
Mathews, John. August 13 1805 July 6 1809.
M'Nitt, Alex. June 15 ib.
Mack, Elisha. Mar. 21 1806. Nov. 12 1811.
Morison, M. Feb. 14 1806. Jan. 17 1811. Aug. 15 1811.
Mott, Joseph S. March 8 1806
M'Lean, Charles. See *S. Loomis.*
M'Combs, Solo. J. Smith, and B. D. Galpin. May 24 ib.
Mills, Zachariah. July 17 ib.
Morgan, John T. October 9 ib.
Montgomery, Wm. Feb. 10 1807
M'Ilvain, Jer. April 1 ib.
Mix, Jonathan. April 18 1807. Jan. 17 1808 June 3 1813.
M'Ilwham, Thos. October 6 ib.
Moon, Samuel, jun. October 24 1808
Mirick, Stephen. November 30 ib.
Martin, Levi. December 19 ib.
Miller, Wm. January 6 1809
Moss, Moses. January 10 ib.
Moor, Alex. D. Jan. 19 1809. Aug. 7 1813
Mans, S. and J. Black. Feb. 18 ib.
Millington, Ira. March 2 ib.
Morneweck, Chas. March 13 ib.
Mirick, Ben. April 21 ib.
M'Cord, John. June 13 ib.
Mason, Wm. December 28 ib.
Mead, Henry. February 12 1810
Murray, George. Feb. 13 ib.
Morgan, Joel. Feb. 20 ib.
Moore, Moses L. February 21 ib.
Melville, D. Mar. 14 1810. Mar. 18 1813. Nov. 18 1818.
Minor, Jonathan. April 20 ib.
Maverick, Andrew. April 17 ib.
Mosely, David C. April 25 ib.

Mathews, Herman. May 15 1810
Miller, E. and J. Andrews. Aug. 15 ib.
Miller, Wm. Sept 26 1810. Aug. 15 1811.
Miller, Jacob. March 2 1811
Mussey, Thomas. March 4 1811. June 10 1817. March 6 1820.
Mumford, Harvey. March 28 ib.
Morgan, John. April 10 ib.
Miller, Ezra L. May 11 ib.
M'Murtry, Chas. July 8 ib.
Miller, Nath. and P. W. Aug. 20 ib.
Maker, Wm. November 12 ib.
Macomber, James. November 19 ib.
May, Sam. January 11 1812
Messer, Francis. January 23 ib
Moore, Nath. L. February 4 ib.
M'Donald, James. April 1 ib.
Mix, Eli. April 25 ib.
Mayo, William. May 15 ib.
Mabin, Richard. August 8 ib.
Morril, Stephen. August 28 ib.
Morrison, John H. Aug. 28 1812. March 18 1814.
Morris, John. Oct. 3; March 3 ib. March 1 1815. March 7 1816.
Malony, James. Nov. 20 ib.
Mills, Zachariah. February 16 1813
Millard, Ira. May 6 ib.
Mathes, James. May 27 ib.
Milne, Alex. July 14 ib.
Murray, Mathew. August 7 ib.
Moore, Richard. Jan. 13 1814
Merrit, Willis. February 1 ib.
Miller, Ben. Feb. 21; May 9 ib.
M'Thorndike, John. March 7 ib.
Moore, Henry. July 2 ib.
Mead, B. and G. Richards. July 2 ib.
Morgan, Jede. and J. B. Harris. October 11 ib.
Mervin, Dan. jun. and H. Kellog.
Merriam, Lawrence. Jan 4 1815
Morgan, Elisha. January 24 ib.
Miller, Thos. jun. January 25 ib.
Mason, John. March 30 ib.
Mathews, Anson. April 26 ib.
Manny, Gabriel. June 8 ib.
Mastayer, Ben. June 28 ib.
Meer, J. July 1 1815. Aug. 26 1818
Mathew, Hemard. September 12 ib.
Meeker, Benjamin. October 21 1815
Marshall, Ben. December 5 ib.
Merritt, Lem. and S. C. Rogers. December 27 ib.
Moser, Joseph. January 26 1816
Mason, Joseph. February 8 ib.
Moody, Paul. March 9 1816. Jan. 17 1818. April 3 1819. March 13; Mar. 14 1817. May 6 1819.
Mead, John. March 13 ib.
Merrit, Oliver. May 22 ib.
Mitchell, William. June 24 1815. March 26 1817. May 28 1818.
Martin, Moses. July 8 ib.
Merril, Mervin. October 25 ib.
Martial, Ben. December 7 ib.
Martin, Anthony B. Dec. 26 ib.
Mallory, Meredith. March 3 1817
Munger, Geo. March 20 1817. June 23 1818. ib.
M'Cluer, Heman. April 18 ib.
Morse, S. F. B. and S. E. Oct. 3 ib.
Mott, Edward. October 4 ib.
Mead, N. and J. Cutler. Nov. 3 ib.
Maxwell, Hugh. December 26 ib.
M'Kamy, Alex. D. Feb. 10 1818
Maltby, Ben. and Maltby Fowler. Feb. 23 1818. Feb. 26 1819.
Mount, R. and J. April 11 ib.
Morton, John H. T. Bodley, and R. Huston. April 28 ib.
Mackay, John. May 28 ib.
Mixer, Nathan. May 28 ib.
Miller, Perry. October 26 ib.
Merot, Charles. November 5 ib.
Mitchell, John K. Nov. 19 ib.
Manter, Grafter. Dec. 8 ib.
M'Cormick, Stephen. Feb. 3 1819
Moody, Nathan. Feb. 19 ib.
Mason, Silas. Feb 20 ib.
Mudge, I. and M. Hatch. April 10 ib.
Munson, Job L. April 26 ib.
Martin, Anthony B. June 2 ib.
Miner, Fred. August 21 ib.
Martin, S. and Z. Chapin. Jan. 18 1820
Martin, Peter H. February 23 ib.
Marshall, Philip, and J. B. Smith. March 3 ib.
Merrill, Pardon H. April 6 ib.

N.

Nazro, John. Jan 6, 1797. Jan. 6, 1797
Newbold, Charles. June 26 ib.
Newell, Jonathan. Aug. 12 ib.
Naylor, John. March 7, 1803. Mar. 31, 1804.
Newton, Simon. Dec. 2 1804
Newton, Israel. Feb. 28 1806
Nichols, Jonathan. July 11 1807
Nicholson, R. and T. Dec. 13 1808
Nichols, Daniel. March 1 1809
Newman, John. June 27 ib.
Newell, T. July 7, 1809. Apr. 12, 1820.
Nicholson, Thos. Aug. 10 1809 April 29 1817.
Nichols, Israel. Oct. 12 ib.
Nichols, M. and Israel. Oct. 12 ib.
Noble, Sylvester. Feb. 1 1810
Norton, Lewis Mills. April ib.
Nicholson, John. April 28 ib.
Nichols, Perkins. May 18 ib.
Newell, Daniel. July 26 ib.

Nichols, Robert Lloyd. Feb. 23 1811
Neff, George. March 19 ib.
Noyes, Josiah. June 21 ib.
Norton, Abraham. Feb. 11 1812
Neall, Daniel. Feb. 26 ib.
Norton, T. and J. Biddis. Apr. 15 ib.
Nicholson, Robert. June 23 ib.
Newton, Martin. Sept. 28 ib.
Nine, Daniel, jun. May 4 1813
Noble, John June 10 ib.
Nicholson, Thos. and Sam. Gunn. August 6 ib.
Noble, David. May 9 1814
Nourse, Asa. July 5 ib.
Nelson, Martin. Oct. 17 ib.
Nash, Aaron. Dec. 17 ib.
Nichols, Jonathan, jun. Apr 12. 1815
Newbury, Joshua W. June 23 ib.
Norton, John. June 13 1816
Newhall, Timothy. Sept. 7 1816
Dec. 27 ib.
Noble, R Dec. 17, 1816. May 17, 1819
Northrop, Isaac. Jan. 7 1817
Nold, Henry. Jan. 23 ib
Noys, D. E. Sept. 6, 1817. Oct. 14 1819
Nixon, Samuel. Feb. 28 1818
Nash, Sylvester. April 11 ib.
Noth, Linus. May 28 ib.
Nott, Eliphalet. Feb. 3 1819

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Ormsbee, Elijah. March 21 1798
Osborne, Jacob. Nov. 24 1803
Otis, Millville. See *Rogers, Samuel.*
Osborn, Levi, July 12 1804
O'Conner, Thomas. July 9. 1807
Olds, Ezekiel. June 30 1808
Osgood, Thomas. July 11, ib.
Osgood, Gardiner June 7, 1809
Olds, Ezekiah and Pleny Upham Dec. 21, ib.
Osborn, Ezra. Jan. 8 1810
Osborn, David. Jan. 8 ib.
Olds, Ezekiel and Phiny Upham, Dec. 26 ib.
Osburn, John, jun. May 29 1811
Owins, John. March 5, 1812 Jan. 25, 1814. Sept. 9 1816
Owen, Ethen. Oct. 1 1812
Obert, Peter Dec. 18 1813
Ogden, Francis B. Dec. 31 ib.
Osgood, Christopher. March 26 1814
Olds, Jared. April 14 ib.
Orth, C. H. and F. Strohn, Oct. 11 ib.
Orwan, Frederick. Feb. 25, 1815
Otis, Bass. March 14 ib.
Ormsby, J. and Thomas Cohoon, Jan. 4 1816
Osborne, Horace, and William L. Fraser. April 25 ib.
Olney, James. March 29 1817
Olney, Anthony. Dec. 11 ib.
Otis, Melvin, Dec. 31 ib.
Ogle, Samuel. June 9. 1818
Oakly, G. P. Nov. 25 ib.
Ordronau, John. April 26 1819

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Putnam, Aaron. Jan. 29 1791
Parkinson, Geo. March 17 1791. June 16, 1794
Pollard, William. Dec. 30 ib.
Pope, Joseph. Jan. 26 1793. July 22 1802
Perkins, Thomas. Feb 7 1794
Perkins, J. Jan. 16, 1795. Feb. 14 1799. March 19 1799. July 9 1802. June 26 1809. June 16 1810. July 17 1814 March 23 1813. June 26 1813. June 29 1813. Nov. 1 1815 Feb. 27 1819.
Pitman, John. May 25 1795. Dec. 24 1799. March 14 1817.
Perkins, Elish. February 19 1796
Passmore, Thos. Dec. 23 ib.
Peale, Chas. W. Jan. 21; Nov. 16 1797 July 15 1801.
Pettibone, D. Nov. 16 1797. Mar. 21 1806. Oct. 28 1808. May 12 1812 May 5 1813. Feb. 12 1814. Aug 11 1818. Aug. 21 1819. Nov. 10 1819.
Parsons, Stephen. Nov. 20 1797 October 25 1810.
Palmer, Timothy. Dec. 17 ib.
Payne, Wm. Dec. 10 ib.
Peale, Raphael. Dec 14 1798
Pratt, Phineas. April 12 ib.
Payne, Thos. Dec. 2 1799
Percy, John. March 3 1800
Philips, G. N. Aug. 25 ib.
Palmer, Wm. Aug. 25 1801
Power, Thos. Sept. 19 ib.
Poole, John. Oct. 13 ib.
Peirce, Joel. April 10 1802
Paine, W. Aug. 24 ib.
Putman, Elisha. Aug. 24 1802, Dec. 31 1816. Nov. 18 1818.
Peers, Valentine. Dec. 18 ib.
Pettibone, D. E. Chapman, and J. Nichols. Dec. 22, ib.
Peasly, Jedediah. Feb. 1 1803
Platt, Benjamin. April 27 ib.
Pills, B. Paul. Oct. 25 ib.
Paine, Asahel E. Nov. 19 ib.

Peirce, Thomas. February 21 1804 May 24 1805. June 24 1809. Feb. 27 1819.
Power, Thos. July 12 1804. Jan. 7 1817.
Platt, Joseph. May 4 1805
Poyzer, Geo. May 10 ib.
Pryor, Thomas W. May 21 ib.
Poole, Wm. December 20 ib.
Purdon, Wm. March 19 1806
Payne, Stephen. March 31 ib.
Pearse, James A. April 7 1807
Peacock, David. April 1 ib.
Pope, Thos. April 18 ib.
Pollock, A. April 23 1807. June 17 1808. July 31 1815.
Phabus, Wm. June 9 1807. June 27 1810. Nov. 28 1817.
Pitkins, J. and T. Kimball. Oct. 19 ib.
Pierson, Jeremiah H. Dec. 24 ib.
Pierson, Isaac. Dec 24 ib.
Pratt, Phineas. Mar. 5 1808
Pondrell, Joseph. April 6 ib.
Pierpont, Daniel. April 22 ib.
Pitkin, Roswell. April 23 ib.
Patten, Robert June 13 ib.
Parsons, Osborne. June 23 1808. April 4 1820.
Paine, Asahel E. July 1 ib.
Parker, Sam. July 9 1808. April 26 1809. April 5 1813
Prince, Sam. August 31 ib.
Parmele, Dan. Sept. 8 ib.
Parmele, Mar. B. Sept. 21 1808. August 25 1812.
Pillsbury, Paul. Sept 22 ib.
Parke, James P. December 19 ib.
Parmantier, Nich S Jan. 30 1809
Pratt, Jonathan. Jan. 14 ib.
Patten, Robert. Feb. 17 ib.
Perry, N. Oct. 13 1809. Sept. 25 1811.
Philips, Rozel. October 14 ib.
Parmele, Dav. Nov. 20; Oct. 25 ib.
Parkhurst, John, jun. Feb. 13 1810
Parmele, Henry. February 15 ib.
Peabody, Wm. H. June 8 ib.
Parry, Ben. July 7 ib.
Parsons, Eli. August 16 ib.
Perkins, E. Sept. 16 1810. Feb. 26 1811.
Philips, John, and Jas. Smallman. September 18 ib.
Potter, Hozeah E. Nov. 20 ib.
Paul, Thomas. Feb. 23 1811
Pond, William. Feb. 28 ib.
Paine, Otis. March 1 1811. June 18 1813.
Price, Nehemiah. March 2 ib.
Pierson, Azeal. March 2 ib.
Palmerlee, Heman May 25 ib.
Parker, D. & J. Sandford. May 30 ib.
Putnam, Archelaus. July 20 ib.
Pratt, Thos. Sept. 12 ib.
Power, Thos. Sept. 27 1811. Jan. 7 1817.
Pierson, Jacob. Oct. 17 1811
Pennock, Moses. Feb. 18 1812
Phinney, Zipa. June 19; Oct. 31 ib. Jan. 16 1814. Mar. 4; Feb. 6 1816.
Parsons, Hezekiah. July 9 ib.
Pease, A. and S. Bester. July 27 ib.
Pollock, A. and J. Perkins. Aug. 6 ib.
Palmer, Joseph. August 21 ib.
Phelps, John. August 27 ib.
Partarrieu, John B. Nov. 30 ib.
Peabody, Wm. H. Dec. 14 ib.
Philips, Gabriel N. Feb. 5 1813. June 28 1814.
Patrick, Mauer. June 2 ib.
Pope, Samuel. June 15 ib.
Pettee, Simon. June 15 ib.
Perkins, Jacob, and Geo. Murray. June 25 ib.
Pierson, Daniel. July 16 ib
Pye, W. Aug. 5, 1813. April 28, 1818.
Pease, Horace. Aug 28 ib.
Powel, Thomas. Dec. 3 ib.
Postley, C. March 7 1814. April 26 1815.
Platt, Chas. and Dan. March 7 1814
Potter, Benjamin. May 18 ib.
Pulsifer, John. May 24 ib.
Peck, Benjamin. July 5 ib.
Petton, David. Sept 30 ib.
Patrick, George. Nov. 8 ib.
Pettibone, Ozias. March 1 1815
Peck, George. April 26 ib.
Puffer, Timothy. May 23 ib.
Pomroy, Thomas M. June 21 ib.
Parker, Fielding. July 25 ib.
Palmer, Urban. July 31 ib.
Porter, Aaron, James Mead and James Steadwell. July 31 ib.
Pendergast, Garret E. Aug 18 ib.
Philips, Charles, jun. Oct 21 ib.
Pearson David. Jan. 24 1816
Porter, David. Feb. 3 ib.
Price, W. Mar 4, 1816. Apr. 30 ib.
Paddleford, Peter. May 18 ib.
Pullen, Thomas. June 20 ib.
Parmele, Samuel. July 15 ib.
Porter, and Mead. Aug. 22 ib.
Power, T. and Isaac. Aug. 31 ib.
Potter, Bradford A. Sept. 26 ib.
Perkins, J. and T. Gilpin. Dec. 18 ib.
Parnell, William. Jan. 10 1817
Pinkney, Israel. April 16 ib.
Parsons, Bishop N. April 16 ib.
Peacock, David. May 29 ib.
Purdy, Jeremiah. Oct. 4 ib.
Purdell, William Nov. 3 ib.
Paine Ephraim. Dec. 11 ib.
Prescot, Jonathan. March 6 1818
Porter, Nathan. April 7 ib.

Pennock, Abram. and Jas. Sellers. April 28, 1818. July 6 1818
Prescot, Levi and J. Nov. 5 ib.
Peasley, Aaron M. Nov. 11 ib.
Potts, Joseph. Nov. 7 ib.
Palmer, John. Dec. 29 ib.
Parsons, Seth. March 2 1819
Peck, Seth. April 23 ib.
Pommer, Charles Aug. 30 ib.
Pignatelli, John B. Dec. 2 ib.
Pool, Daniel. March 22 1820

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Quintard, Isaac. April 5 1806
Quinby, Joseph. April 25 ib. Feb. 3, 1812.
Quincy, Abraham. March 20 1811
Quincy, Abram. H. Sept. 3, 1811.
February 17, 1812. May 21, 1812. June 13, 1812.
Quin, Henry. Feb. 21 1815
Quigley, Moses A. June 15 1819

R.

Rumsey, James. Aug. 26 1791
Read, N. Aug. 26, 1791. Jan. 8, 1798. Feb. 21, 1817. Feb. 22, 1817. Dec. 23, 1817. Feb. 18, 1818.
Ridgway, David. March 7 1792. October 26 1809.
Ryan, E. April 29, 1793. Nov. 16 1796
Robothom, Rich. April 12, 1794. June 1794. Aug. 14, 1799. Oct. 10, 1801
Roberts, Jonathan. jun. Feb. 13 1796
Rigg, Elisha. July 29 ib.
Rentgen, Clement. Nov. 17 1796. June 27 1810.
Ring, Elias. Dec. 10 1797
Reeve, M. Dec. 14, 1798. June 26, 1816
Reed, Ezekiel. Feb. 14 1799
Reed, Jesse. June 9, 1801. July 15, 1802 Feb. 22, 1807. April 15, 1809. Sept. 16, 1810. Aug. 14 1811 Oct. 22, 1814. Dec. 16, 1814 Aug. 1, 1816
Robins, Nathaniel. March 21 1802
Richardson, Hez. jun. and Levi. April 28 ib.
Richardson, John. Sept. 13, 1802 April 4, 1803.
Rawson, Thos. H. July 24, 1802 April 4, 1803.
Rowse, Simeon. Jan. 1 1803
Ruggles, Lazarus. Oct. 18 ib.
Rogers, S. and M. Otis. Dec. 7 ib.
Richardson, Edward. Dec. 16 ib.
Ross, Talmage. Jan. 19 1804
Robertson, Archibald. March 5 ib.
Robinson, G. W. March 24 1804. June 27, 1809. May 14, 1812. March 17, 1813. July 17, 1818.
Robert, John, Amos D. Allen, and Ezekiel Kelsey. Sept. 5 ib.
Roberts, Owen. April 12 1805
Richards, G. Feb. 14 1806. Feb. 8 1813.
Rogers, Levi. Feb. 4 1807
Richards, Edward Oct. 3 ib.
Rogers, S. Dec. 15, 1807. Jan. 26 1814. Oct. 21, 1814. Jan. 24, 1818
Reed, Aaron. April 25 1808
Reeve, Joseph. April 25 ib.
Rider, Daniel. April 26 ib.
Rhodes, William. May 16 ib.
Reed, Jesse I. June 3 ib.
Ramsey, Robert. June 24, 1808 July 9 1808
Ross, Henry, jun. June 28 ib.
Rickets, John T. Aug. 8 ib.
Rogers, Geo. Dec. 31, 1808. Dec. 18, 1816.
Ross, W. Jan. 14 1809. July 10 1809
Rew, Ephraim. Feb. 22 ib.
Robinson, John. Feb. 25 ib.
Reed, Jacob June 9 ib.
Richardson, William H. June 9 ib.
Ritter, Christian. Aug. 11 ib.
Robetson, Robert. Nov. 3 ib.
Russel, William. Dec. 1 ib
Raymond, Eben. Feb 21 1810
Reid, B. R. March 8, 1810. Aug. 18, 1810.
Ruggles, L. and Dan. Tomlinson. March 17 ib.
Robinson, Robert. March 19 ib.
Richardson, Oliver. April 18 ib.
Richards, R. W. and Mills. Apr. 24 ib.
Roberts. Jesse. April 25 ib.
Rogers, George A. July 3 ib.
Richards, Jedediah 3rd. Aug. 13 ib.
Ruggles, Levi. Aug. 16 ib.
Robinson, Nat. P. Aug. 31 ib.
Reid, Upton. Aug. 31 ib.
Randall, Sam. Oct. 1, 1810. Jan. 11 1812. March 12 1811.
Robinson, William. Nov. 27 ib.
Reuck, Aaron. Dec. 5 ib.
Robinson, D. Dec. 15, 1810. May 3, 1811.
Russell, Barzillai March 4 1811
Randolph, John F. April 24 ib.
Rowey, John. May 7 ib.
Ruggles, Joseph. June 6 ib.
Righter Jonathan. July 23 ib.
Reynolds, Charles. Aug. 21 1811. July 23 1814.

Read, Daniel. Sept. 10 1811
Rogers, James. Sept. 27 ib.
Real, Josiah. Oct. 5 ib.
Reeve, Mark, and Richard. Nov. 13, 1811. Feb. 3, 1812. Oct. 31, 1812. April 16, 1813. Sept. 28, 1813.
Rotch, Fran. Nov. 29 1811. Aug. 3 1812.
Rogers, Richard E. Nov. 29 ib.
Raymond, Ephraim. Jan. 17 1812
Rood, Job. Jan. 23 ib.
Rich, Joseph. Jan. 27 ib.
Roots, Joel. Feb. 13 ib.
Richards, William. March 2 ib.
Richards, John D. Feb. 27 ib.
Richards, Robert U. May 23 ib.
Richardson, Joseph and Benjamin Sout. June 6 ib.
Rose, Samuel. June 15 ib.
Rogert, Robert C. June 23 ib.
Robertson, George. Nov. 16 ib.
Russel, James D April 10 1813
Robinson, E. July 24, 1813. Mar. 6, 1816.
Roy, Robert. Nov. 13 ib.
Rogers, M. Feb. 9, 1814. Mar. 3, 1815. Jan. 7, 1817.
Russel, Emery. April 18 1814
Richardson, Benjamin. Mar. 17 ib.
Ricketts, G. H. and J. Kinney, jun. July 12 1814
Ridgway, James. Sept. 22 ib.
Ricketts, George H. Oct. 24 ib.
Reynolds, Thomas. Nov. 8 ib.
Rogers, Benjamin. Nov. 24 ib.
Roosevelt, Nicholas. I. Dec. 1 ib.
Rhodes J. and Adam. Dec. 6 ib.
Rittal, Francis. Jan. 28 1815
Richards, Lemuel M. March 30 ib.
Reynolds, Jonathan. June 24 ib.
Randolph, D. M. August. 1, 1815. Aug. 2, ib.
Russel John Oct. 14 1813
Rapp, William A. Dec. 4 ib.
Russel, Frederick. March 14 1816
Raymond G. B. March 26 ib.
Rand, Ebenezer. March 27 ib.
Reich, J. and Ed. Starr. May 11 ib.
Robeson, Joseph. May 22 ib.
Rudd, Stephen. June 14 ib.
Richardson, W. June 15; Sept. 26 ib.
Richardson, Jacob. Oct. 16 ib.
Robinson, Joseph B. Oct. 14 ib.
Rumsey, E. (executor.) Nov. 14; Nov. 15 ib.
Ross, James. Dec. 3 ib.
Ricketson, Humphrey. Dec. 13 ib.
Ruffner, David and J. Jan. 18 1817
Rogers Obijah. March 14 ib.
Rucco, Jules. March 29 ib.
Richmond, James. June 28 ib.
Rogers, Solomon A. July 31 ib.
Remington, Eliphalet. Aug. 13 ib.
Richardson, R. B. Aug. 22 ib.
Rogers, S. and Thos. Blanchard. Oct. 3 ib.
Richardson, Israel I. Oct. 13 ib.
Ruckle, William. Nov. 28 ib.
Rice, John. Dec. 6 ib.
Ronaldson, James. Feb. 2 1818
Raymond, A and G. V. Feb. 7 ib.
Read, John. March 6 ib.
Richards, Joseph. May 28 ib.
Ramage, Adam. May 28 ib.
Richardson, John, jun. July 24 ib.
Reading, Peirson. Aug. 1 ib.
Rogers, Daniel. Aug. 26 ib.
Ruffner, Tobias. Dec. 22 ib.
Rudder, James. Feb. 5 1819
Reynolds, G. N. Apr. 29; Apr. 30 ib.
Redmond, Arthur. May 20 ib.
Ranson, Wm. H. Sept 8 ib.
Russel, Wm. jun. Nov. 8 ib.
Russel, James. Jan. 29 1820

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Sampson, Joseph S. Aug. 6 1790. July 5, 1793. June 26, 1797.
Stone, John. March 10, 1791. Dec. 4, 1814.
Stevens, John, jun. Aug. 26 1791
Saltonstall, Richard R. Feb. 28 1793
May 1, 1793.
Simpson, Joseph. March 4 1794
Staples, John J. jun. April 25 ib.
Feb. 17, 1804.
Sprague, William P. June 19 1795
Stanfield, James. Nov. 16 1796
Spence, James. Feb. 16 1797
Stuart, Richardson. Feb. 24 ib.
Starr, Jehoshaphat. April 28 ib.
Jan. 6, 1813.
Stickney, John. June 3, 1797. May 1, 1804. May 4, 1805.
Seymour, Benjamin. June 26 1797
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Letters in answer to Paine's Age of Reason, by Elkanah Wilkinson, do. do

A Compendious View of Natural Philosophy, &c. by Francis Nichols, March 5th, 1796.

The Columbian Grammar, by Benjamin Dearborn, March 5th, 1796.

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The United States Gazetteer, &c. by Joseph Scott, March 29th, 1796.

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Sentiments concerning the coming and Kingdom of Christ, &c. by Joshua Spalding, April 14th, 1796.

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The Prospect of Philadelphia, and check on the next directory, by Edmund Hogan, June 21st. 1796.

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Revolutionary Justice displayed, &c. translated from the French July 1796.

And The Political Censor, by Peter Porcupine. (The above works were received from Benjamin Davies.)

A New and complete system of Book-Keeping, by William Mitchell, October 29th, 1796

The American Coast Pilot, &c. by Edmund M. Blunt, February 10th, 1797.

The Art of Singing, part 2d. Vol. 2d, by Andrew Law, March, 7th, 1797.

An Index to the Laws of Massachusetts, by Benj. Whitman, March 29th, 1797.

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Sermons on various subjects, Evangelical, &c. by Joseph Lathrop, D. D. in 2 Vols.—Vol, 2d—Mar. 29th, '797.

The Natural Teacher, or the Best Spelling Book, &c. by Noah Worcester, A. M. May 4th, 1797.

An Introduction to Spelling and Reading in two Volumes—being the First and Second parts of a Columbian Exercise, by Abner Alden, A. M. Vol. 1st. May 12th, 1797.

School Dialogues, &c. by Samuel B. Morse, A. M. May 12th, 1797.

The Lay Preacher, &c.—by M. Freeman, May 15th, 1797.

A Narrative of the captivity of Mrs. Johnston, 1797.

By Mr. Freeman, do.

American Gazetteer, by Mr. Morse, June 9th, 1797.

"New Views of the origin of the Tribes and Nations of America," by Benj. Smith Barton, July 7th, 1797.

The American Spectator, or Matrimonial Preceptor, &c. 1 Vol. by Thomas Russell, August 25th, 1797.

"The Columbian Orator," &c. do. do. do.

First Lessons for Children, 2 vols. do. do.

"Pleasing Instructions for young minds, 1 vol do. do do.

The Holiday, or Childrens Social Amusement, 1 vol. do. do. do.

The American Accomptant—being a Plain, Practical and Systematic Compendium of Federal Arithmetic, in three parts, &c. by Chauncey Lee, A. M. September 27th 1797,

The Female Review, &c. by a Citizen of Massachusetts, Nov. 17th 1797.

"An Historical and Geographical Account of Algiers," &c. by James Wilson Stevens, Nov. 30th, 1797.

Medical Repository, (two first numbers) by E. H. Smith, Dec. 4th, 1797.

The Doctrine of Eternal Misery reconcileable with the Infinite Benevolence of God, &c. by Nathan Strong, Dec. 16th, 1797.

Five Discourses on the Truth and Inspiration of the Bible, &c. by Charles Bachus, A. M. Dec. 16th, 1797.

A Plain Rational Essay on English Grammar, &c. by Duncan Mackintosh and his two Daughters, 2 vols. 1 in French, the other in English, January 3, 1798.

"Laus Deo," &c. by Oliver Holden, January 10th, 1798.

An Introduction to Spelling and Reading, &c. vol. 1 and 2, by Abner Alden, A. M. Jan. 10th, 1798.

The Letters of Fabiuss in 1788 & 1797, by Wm. C. Smith, Jan. 11th, 1798

Medical Repository, (third number) by E. H. Smith, Feb. 22, 1798.

A Chart of George's Bank, including Cape Cod, Nantucket, and the Shoals lying on their coast, with directions for sailing over the same, &c. by Ed. M. Blunt, Mar. 29th, 1798

Collections for an Essay towards a Materia Medica of the United States, by Dr Benj. Barton, Apl. 14th, 1798

The Young gentlemen and Ladies' Instructor, being a selection of New Piece

es, designed as a Reading Book for the use of Schools and Academies, &c. by William P. and L. Blake, May 12th, 1798.

Medical Repesitory No. 4, E. H. Smith, May 12th, 1798.

The Coquette, or the History of Eliza Wharton, a novel founded on fact, May 16th, 1798.

Ellen Arise, a Ballad, written by J. E. Harwood——Composed by B. Can, June 30th, 1798.

The Little Sailor Boy, a Ballad, &c. by the same, June 30th, 1798.

Encyelopedia, or a Dictionary of A ts and Sciences and Miscellaneous Literature, &c. 18 volumes, by Thomas Dobson, June 22, 1798.

Campaigns of General Buonaparte in Italy, during the 4th and 5th years of the French Republic, by a general officer, (sent by Tho. Greenleaf) July 2d, 1798

An Abridgment of the American Gazetteer, &c. by Jed. Morse, July 5th, 1798.

New Views of the origin of the Tribes and Nations of America, Aug. 9, 1798.

The American Coast Pilot, by Edmund M. Blunt, Sept. 6th, 1798.

Constitutions of the Ancient and Honorable Fraternity of Free and Accepted Masons, &c, compiled by the Rev. Thaddeus Mason Harris, A. M. 2d edition,—revised and corrected, Nov. 2d, 1798.

The American Orthographer, Book first & second, by Enos Weed. junior, Nov. 7th, 1798.

The Life of Ezra Stiles, D. D. by Abiel Holmes, Nov. 8th, 1798.

The Columbian Spelling & Reading Book, by. Mat. Carey, Nov. 22, 1798.

American Biography, or an Historical account of those persons who have been distinguished in America, by Je. Belknap, D.D. Dec. 12th, 1798.

Sermons on various subjects, Doctrinal, Experimental and Practical, by Nathan Strong, Dec. 31, 1798.

Reports of Cases ruled and adjudged in the several Courts of the United States and of Pennsylvania, held at the Seat of the Fedral Govarnment—A. J. Dallas, vol. 1, Jan. 24, 1799.

English Grammar, adapted to the different classes of learners, by Lindley Murray 2d edition—and

English Exercises, adapted to the grammar lately published by L. Murray, Feb. 18, '99,

The Country Dyer's Assistant, by Asa Ellis, junr. Feb. 25th, 1799.

The History of Pennsylvania in N. America, by Robt. Proud, Mar. 21, 1799.

A Plain, short, comprehensive, Practical Latin Grammar, by James Ross, March 30th, 1799.

The American Tutor's Assistant, by Zachariah Poulson jr. April 23, 1799.

A New and Complete System of Federal Arithmetic, by Peter Sharp, April 24th, 1799.

Letters on the existence and character of the Deity, and on the moral state of man——by Thomas Dobson, May 16th, 1799.

The New Pleasing Instructor, or Young Lady's guide to Virtue and Happiness, by a Lady, May 22, 1799.

Spelling Book,—by Enoch Hale A. M. May 30th 1799.

Memoirs of Major General Heath, by himself, June 12th, 1799.

The Musical Magazine, by Andrew Law, (No. 5) July 3d, 1799.

Fragments of the Natural History of Pennsylvania, by B. S. Barton, M. D. part first, July 3d, 1799.

A. J. Dallas' 3d volume of his reports of cases ruled and adjudged, &c. August 5th, 1799.

Thermometrical Navigation, being a series of experiments and observations, tending to prove that by ascertaining the relative heat of sea-water from time to time, the passage of a ship thro' the Gulph Stream, and from deep water into soundings, may be discovered in time to avoid danger, etc. by Jonathan Williams, August 23d, 1799.

New edition of John Hamilton Moore's Practical Navigation, by Ed. M. Blunt, September 24th, 1799.

A Digest of the Laws of Maryland, being an abridgment alphabetically arranged, etc. by Thomas Herty, October 5th, 1799.

An address to Parents upon the importance of religiously educating their children, by Seth Williston, October 24th, 1799.

Occasional reflections on the observation of the Small Pox, by Joseph Hamilton, October 24th, 1799.

The Young Child's Accidence, by Nathan Grout, Jr. Dec. 5th, 1799.

Twenty-four country dances, etc. by John H. Ives, December 5th, 1799.

The Physical Instructor etc. by Enos Weed, January 4th, 1800.

An Extract from the first section of the 1st book of the Common Man's Physical Instructor, Jan. 4th, 1800.

A Brief history of Epidemic and Pestilential Diseases, etc. by Noah Webster, January 20th, 1800.

A Digest of the Laws of the State of Georgia, etc.—by R. and G. Watkins, February 20th, 1800.

An Oration upon the death of Gen. George Washington, by the Rev. Samuel S. Smith, D. D. Feb. 27th, 1800.

The Young Ladies' and Gentlemen's Spelling Book, by Caleb Alexander, A. M. March 12th, 1800.

The Main Spelling Book, containing a variety of words, by Thomas M. Prentiss, April 2d, 1800.

Cook's American Arithmetic, by David Cook, jr. April 26th, 1800.

The Plain Spelling Book, and easy guide to reading, by Wm. Woodbridge, April 28th, 1800.

Eulogy on the illustrious George Washington, by Charles Pinckney Sumner, May 1st, 1800.

Sermons by the late Reverend John Clarke, D. D. May 5th, 1800.

A Poem, sacred to the memory of General George Washington, by Richard Alsop, May 24th, 1800.

The Columbian Spelling Book, by Benj. Heaton, A. M. May 24th, 1800.

The Child's Library, part first, by William Biglow, July 1st, 1800.

Do. do. part 2d, by do. do. do.

The Power of Solitude, a Poem in 2 parts, by Joseph Story, July 12th, 1800.

The Political economy of inland Navigation, etc. etc. by Wm. Tatham, July 26th, 1800.

A Sermon, in consequence of the Proclamation of John Adams, Esq. by Rev. David Ball, August 7th, 1800.

A Memoir concerning the disease of Goitre, B. S. Barton, Aug. 7th, 1800.

Sermons, by Nath. Emmons, Aug. 14, 1800.

The Magnetic Atlas, 3d edition with additions,——by John Churchman, September 8th, 1800.

The Columbian Dictionary of the English Language, by Caleb Alexander, A. M. September 10th, 1800.

Worshipper's Assistant, by Samuel Howe, September 20th, 1800.

Poems, by Samuel Lowe, Oct. 20th, 1800.

The Connecticut Evangelical Magazine, 4 first numbers, by Abiel Flint, October 30th, 1800,

The Evangelical Harmony, by Dl. Belknap. November 18th, 1800.

United States' Country Dances, by P. Landrin Duport, Nov. 18th, 1800.

A Prospect of exterminating the Small Pox by Benjamin Waterhouse, Dec. 27th, 1800.

Beauties of the Bible, by Ezra Sampson, January 5th, 1801.

The rules of work of the Carpenters of the town of Boston, Jan. 15th, 1801.

Twelve Discourses on the Old and New Testament, by Benjamin Trumbull, February 6th, 1801.

The General Instructor for Sheriffs, Coroners, Constables, etc. by John Bradford, February 20th, 1801.

Memoirs of the Life of Mrs. Sarah Osborn, by Saml. Hopkins, D. D. March 23, 1801.

"American Navy," composed by P. Landrin Duport, March 24th, 1801.

The New Grammatical Spelling Book, by Platt Kennedy Philonm. May 4th, 1801

A New System of Mercantile Arithmetic by Michael Walsh, May 4th, 1801.

The Art of Reading, by John West, May 11th, 1801.

The Essex Harmony, by Jacob Kimball, jr. May 19th, 1801.

Tables, exhibiting duties, etc. by Charles Cleaveland, May 19th, 1801.

The School of Wisdom, or American Monitor, May 24th, 1801.

Modern Entries, etc. by Thomas Harris, jr. June 3d, 1801.

The Columbian Preceptor, by Nathaniel Heaton, jr. June 8th, 1801.

An Explanation of the Scriptures, by David Wight, June 8th, 1801.

Infant Baptism Deceased, by Adam Freeman, June 25th, 1801.

An Introduction to the making of Latin, by Wm. Biglow, August, 18th, 1801.

Considerations on the substance of the Sun, by Augustus B. Woodward, Sept. 9th, 1801.

The Medical Repository, by Saml. L. Mitchell—Edward Miller, and Elihu H. Smith, Volume first and second, October 16th, 1801.

The Medical Repository, by Samuel L. Mitchell and Edward Miller, 3d October 16th, 1801.

The Medical Repository, and Review of American Publications, by Saml. L Mitchell and Edward Miller, Volume 4th, October 16th, 1801.

A Key to the English Language, by Wm. Woodbridge, October 21, 1801.

American Herbal, or Materia Medica, by Saml. Stearns, October 21, 1801.

Modern entries adapted to the American Courts of Justice, by Thomas Harris, jr. November 5th, 1801

Female Quixotism——by Thomas and Andrews, November 14th 1801.

A Variation Chart, by John Churchman, November 18th, 1801.

Essays, Mathematical and Physical, by Jared Mansfield, Nov. 18th 1801.

An Enqiry concerning the liberty and licentiousness of the Press, by Jno. Thompson, November 28th, 1801.

The Easy Instructor, by William Little and Wm. Smith, December 22d, 1801.

Massachusetts Register and United States, Calendar for the year 1802, by Manning and Loring, Dec. 28, do.

Dorval, or the Speculator, by Nutting and Whitlock, January 5th, 1802.

Original Poems, Serious and entertaining, by Paul Allen, Jan. 23, 1802.

The Vermont Harmony, by Urie K. Hill, February 3d, 1802.

The New American Practical Navigator—by Nathaniel Bowditch, March 5th, 1802.

Proofs of the real existence and dangerous

tendency of Illuminism, etc. by S. Pryson A. M. March 5th, 1802.

The Great Error of American Agriculture exposed, and Hints for improvement suggested, by Thos. Moore, March 5th, 1802.

A New Gazetteer, by Reverend Doct. Jed. Morse, April 5th, 1802.

The Methodist Pocket Hymn Book, by Ezekiel Cooper, April 26th, 1802.

Sixth number of the Musical Magazine, by Andrew Law, April 26th, 1802.

Extensive Charity, by Robert G. Wetmore, May 20th, 1802.

New England Harmony, by Timothy Swan, May 24th, 1802.

A Scriptural account of the Millennium, by Benj. Gorton, June 30th, 1802.

Practical Observations on Vaccination, by John Redman Coxe, M. D. July 9th, 1802.

A New and Complete System of Arithmetic, by Caleb Alexander, A. M. July 12th, 1802.

The Child's First Book, by Wm. P and L. Blake, July 30th, 1802.

Rowlett's Tables of Discount, or Interest, August 3d, 1802.

Letters of Adelaide de Sancene to Count de Nance, October 26th, 1802

Medical Repository, etc. by Samuel L. Mitchell, and Edward Miller, M D. 5th Vol. October 26th, 18 2

Historical Memoirs of Stephanie Louise De Bourbon Conti, Oct. 26th 1802.

A Treatise on Obligations, etc Translated from the French, in 2 vols—vol. 1st, by Martin and Ogden, October 6th, 1802

Physical Investigations, by Willam Barnwell, M D October 25th, 1802

American Precedents of Declarations, by Barnard B. Macanulty, November 1st, 1802

An Abridgment of L. Murray's English Grammar, by Manning and Loring, November 3d, 1802

A View of Religions by Hannah Adams, 3d edition by H A Medfield, do. do.

Tables for completing the effect of Lunar Distances,——by Peter Delamar, November 11th, 1802.

Reports of Cases argued and adjudged in the Court of Appeals of Virgina, by Daniel Call, December 2d, 1802

Elements of Useful Knowledge, volume 1st by Noah Webster, jr Dec. 28, do.

The Middlesex Collection of Sacred Harmony, Daniel Belknap, do do

The Easy Instructor, for teaching Harmony, by Willliam Little, do do

The Educational Directory, by Enos Weed January 6th, 1803

The American Definition Spelling Book, by Abner Kneeland, Jan. 13th, do

The Child's Spelling Book, do do do

Quincy's Lexicon Physico-medicum improved, from 11th London edition, January 21st, 1803

Star Cross. to find the hour and minute of the night. by William Prescot, January 24th, 1803

A Treasure for Children, being a small Spelling Book, by Andrew Rawson, January 24th, do

The Pupil's guide to Practical Arithmetic, by Jonathan Grout, jr. do do

Columbian and European Harmony, or Bridgwater Collections of Sacred Music, by B Brown, A M February 7th, 1803

A Map of the State of New-York, by Simon De Witt. February 9th, do

A View of the Doctrines and Duties, by Joseph Lathrop, D D Feb. 17, do

A short Compendium of the duty of Artillerists, by Amasa Smith, do do

A Prospect of exterminating the Small Pox part 2d, by Benjamin Waterhouse M. D. March 11th, 1803

Exercises of Piety, by G J Zollikofer, translated from the French, by J Manning, March 24th, 1803

Collection of all the Public Acts of Kentucky, by Harry Toulmin, April 27th, 1803

Juvenile Letters, by Caleb Bingham A M May 4th, 1803

A Treatise on the nature and importance of the Sacraments, by Ebenezer Chaplin, A. M. May 16th, do

An enquiry into the Law Merchant of the United States, volume 1st, by George Caines, May 23d, 1803

The American Orthographer, by Arthur O. Stansbury, May 23d, 1803

Electricity, or Etherial Fire, considered, T. Gale, M D June 7th, 1803

The Prompter, on common sayings and subjects,——by Noah Webster, June 11th, 1803

Memoirs of eminently Pious Women, by Daniel Dana, June 25th, 1803

The Rudiments of Geography, by John Hubbard June 28th, 1803

The Domestic Encyclopedia, volume 1st, by A F M Willich, M D June 30th, 1803

A Report made by the Supreme Court in which the titles to land were in dispute, by James Hughes, July 29th, 1803

The Federal Calculator by Daniel Hawley, July 29th, 1803

A Hebrew Grammar, (without points) by John Smith A. M. August 20, do

The Domestic Encyclopedia, volume 2d, by A F M Willich, August 20, do

Continuation of the History of the Province of Marsachusetts Bay, from 1748 to 1755, by George Richards Minot, Fellow of the American Academy of Arts and Sciences, Volume 1st, August 21, 1803

The Probate Directory, by Samuel Freeman, Esquire, October 3d 1803
Blackstone's Commentaries, Saint George Tucker, November 23d, 1803
A New Conductor Generalis, by a gentleman of the Law, November 26, do
The Arithmetical Magazine, by W M. Finlay, November 28th, 1803
The Musical Instructor, by Lewis and Thaddeus Seymour, November 28, 1803
The Domestic Encyclopedia, by James Mease, M. D. do do
The Educational Dictionary, by Enos Weed January 7th, 1804
The Rhode Island Clerk's magazine, or Civil Officer's assistant, by James Heaton, January 16th, do
The Federal Compendium, by Chester Wright, do do
The Journal of Andrew Ellicott, late commissioner for determining the Boundasy line between the United States and the possessions of His Catholic Majesty in America, January 16th, do
The Letters of Curtius, by John Thompson of Petersburg, February 17th, do
A Brief retrospect of the 18th century, by Samuel Miller, A M March 9th, do
"A Work" Sermons by John Smalley, D D March 23d, do
A treatise of the law relative to merchantships and seamen by Chas. Abbot, March 24th do
Commercial and Notarial Precedents, by Joshua Monefione, do do
The American Gazetteer, by J. Morse, D D April 2d, do
A reduced map of the state of New York, by Simeon De Witt, April 16th do
A plan for the Ladies' Fund in the United States of America, by James Houston, May 4th, do
A Commercial Dictionary, by Joshua Montefione, May 19th, do
The Medical Repository, by Samuel L Mitchell M D May 21st, do
The Art of Signing, by Andrew Law, May 28th, do
Elements of useful Knowledge, by Noah Webster, July 2d do
An appendix to the New American Practical Navigator, by Edmund M. Blunt, July 7th, do
The Builder's Universal Price Book, by John Evans, July 7th, do
Discourses to Young persons, by John Clarke, D. D. July 7th, do
The Life of George Washington, by John Marshall, September 4th do
A new edition of the Prompter, June 11, do
A Compendious History of New England, by J. Morse, D D, Sept. 9th, do
The Life of Washington, by J. Marshall, October 25th, do
Digest of the Laws of Maryland, by Thomas Herty, October 29th 1804
The American Spelling Book, by Noah Webster, November 5th do
An abstrac t of the Laws of the United States, by Samuel Bayard, November 16th, do
The Merchant's Companion, by C. T. Demarest, November 27th do
A map containing the theory and outlines of a perpetual almanac, by Gardiner Goold, December 10th do
The Nurse's Guide, by James Humphreys, December 11th, do
The Georgia Justice of Peace, by George Watkins, December 12th do
Letters from London written during the years 1802 and 1803, by William Austin, December 25th, do
The Medical Repository, by Samuel L Mitchell and Edward Miller M D Volume 1st, December 26th, do
The Gentleman's Law Magazine, by a gentleman of the Bar, Jan. 11th, 1805
Ferdinand and Elmira, a Russian Story, by a lady of Mass. February 1st, do
Collection of Edifying Hymns, by Michael Billmeyer, February 1st, do
The Union Spelling Book, by A. Picket, March 2d do
The Universal Restoration of all Men, by Joseph Young, M D do do
The new universal Biographical Dictionary by J Hardie, A. M Mar. 21st, do
The Life of George Washington by John Marshall, vol. 3d, April 4th, do
A Complete Treatise on the Mensuration of Timber, by James Thompson, April 10th, do
The Expositor, or many mysteries unravelled, by Wm Frederick Pinchbeck, April 20th, do
The Art of Signing, in three parts, by Andrew Law, April 23d, do
The American Orthographer, vol 1st, by Enos Weed, April 27th, do
The Columbian Harmonist, 2d edition, by Daniel Read, May 2d, do
A Companion for the Festivals and Feasts of the Protestant E. Church in th United States, by John Henry Hobart, A M May 4th, do
The Life of Samuel Johnson, D. D. by Thos. B Chandler, D. D. do do
An Engraving of the Right Reverend Wm. White, Bishop, by Benj Tanner; Engraver, June 10th, do
The Book of Common Prayer, by Thomas L. Plowman, and Benj. Tanner, June 10th, do
A selection of Pleadings in Civil Actions—by Joseph Story, July 29th, do
The Power of Solitude, by do. do do
A System of Geometry and Trigonometry, by Abel Flint, A. M. July 29, do
Hymns original and selected, by Elias Smith and Abner Jones, do do

An Essay on the Principles of Political Economy, July 29th, 1805
The Lord's Songs, by Joshua Spalding, A. M July 24th, do
A new Grammar of the French Tongue. by a French Gentleman, July 31, do
A Treatise on Fractures, by P J. Desault, July 16th, do
The Journal of a Tour into the Territory Northwest of the Allegany mountains, by Thaddeus Mason Harris, A. M. July 2d, do
A System of Military Tactics, by Daniel Fisher, August 5th, do
Sketches of the Life of the late Reverend Samuel Hopkins, D. D. by Stephen West, D. D. August 16th, do
A Magistaate's Guide and Citizen's Counsellar by John B. Colvin, Esq. September 18th, do
Moral Education, by a Disciple of the Old School Philosophy, Oct. 4th, do
The Columbian Harmony, by Charles Robbins, October 18th, do
The Systematic Spelling book, Oct. 21, do
The First Settlers of Virginia, by Messrs. J. Riley, and Co. Oct. 21, do
Truth and Reason, by J. Peel, Nov. 6th, do
The Medical Repository, by Samuel L. Mitchell, M. D and Edward Miller, M. D. 2d Hexade, Volume, 2d, November 8th, do
The History of the American Revolution, by Bernard Hubley, Volume 1st, November 8th, do
Chart of Long Island Sound, by Messrs. Cahoone and Fosdick, Nov. 14, do
Reports of Cases in the Supreme Judicial Court of the state of Mass. from September 1804 to June 1805—November 25th, do
The Northern Harmony, by Abraham Maxim, November 25th, do
An examination of the representations and reasonings contained in seven Sermons by the Rev Daniel Merrill—by Samuel Austin, A. M. November 30th, do
Life of Washington, vol. 4th, by John Marshall, December 12th, do
Witchcraft, or the Art of Fortune Telling unveiled, by William F Pinchbeck, January 7th, 1806
An attempt to explain God's Gracious Covenant, by John Hubbard Church, January 27th, do
The Northern Harmony—by Abraham Maxim, February 6th, do
An Answer to War in Disguise, by Messrs. J. Riley, and Co. New York, February 15th, do
A Compendious Dictionary of the English Language—by Noah Webster, February 24th, do
Letters from Europe during a Tour thro' Switzerland and Italy, in 1801 and 1802, 2 vols. in 1, March 6th, do
The Elements of Chess, by Wm. Pelham, March, 12th, 1806
Cushing and Appleton's edition of Salust, March 19th, do
A Treatise on the office and duty of a Justice of the Peace, Sheriff, etc. by James Ewing, March, 22d, do
The Justices and Constables Assistant, by William Graydon, March 24th, do
The Fifer's Companion, No. 1 by Cushing and Appleton; March 26th, do
The Dyer's Companion, in two parts, by Elijah Bemiss, March 31st, do
The Salem collection of Classical Sacred Music, by Cushing and Appleton, April 3d, do
American Annals, from its discovery in 1492 to 1806, by Abiel Holmes, D. D. April 4th, do
The Norfolk collection of Sacred Music, by Amos Albee, April 5th, do
The Art of Singing, in three parts, by the Rev. Andrew Law, April 22d, do
A choice collection of Evangelical Hymns from various Authors, by Ralph Williston, May 6th, do
The American Gardiner's Calendar, by Bernard McMahon, June 16th, do
The Constitution of the Presbyterian Church, by the Rev. Dr. Green, June 17th, do
A Geographical description of Pennsyvania, by Joseph Scott, July 2d, do
The Vermont Disciplinarian, by John W. Brownson, July 28th, do
The American Dispensatory, by John Redman Cox, M. D. Aug 29th, do
The American Dispensatory, by do do October 6th do
Travels in Louisiana and the Floridas, October 23d do
Means of Preserving Health and preventing diseases, by Shadrach Ricketson, November 6th, do
The abortion or the young steam engineer's Guide, December 10th, do
The open Communion with all who keep the Ordinances as Christ deliver'd them to the Saints—by Manning and Loring, December 31st, do
Twelve Letters, addressed to Rev. Samuel Austin, A. M. by the Rev. Daniel Merrill, A. M. Dec. 31st, do
Thoughts on part of the Discourse delivered by Mr Key against the Universal Salvation of Men, by John Pearce, January 1st, 1807
Discourses on modern Chemistry, by Dr. Ewell, January 1st, do
The American Reader, by Herman Daggett, A. M. January 3d, do
The Examination and rejection of Thomas Ledlie Birch, by Rev. T. L. Birch, A. M. January 12th, do
Selection of Hymns, by the Rev. Dr Rippon, January 26th, do
Catalogue in Latin of the Graduates of Har-

vard University, from the Year 1642. byJ Cushing, Jan.29th, 1807

Bill of mortality of the Presbyterian and Baptist Congregations, of Morristown, Penn. during 38 years, by Wm Cherry, (Sexton) do do

The Salem Collection of Classical Sacred Music, 2d edition, by Manning and Loring, January 29th. do

An improved American Primer, by Joshua Cushing, January 29th, do

Reports of Cases in the Supreme Courts of Errors and Appeals, by William W. Hening, and Wm. Mumford, January 31st, do

Map of Pennsylvania, by Reading Howell, February 5d do

Rural Economy, by S. W. Johnson, do do

The Echo, a Poem, N. Bayley. Feb. 4th, do

Elements of Useful Knowledge. Vol. 3d, by Noah Webster. Feb. 19th. do

Eclesia Harmonia, by Charles Woodward and John Aitkin, Feb. 21st, do

Geographical Compilation, D L. C. 24th do

The American Universal Geography, by the Rev J Morse. Feb 25th, do

A Spelling. pronouncing and parsing Dictionary, by Abel M Flint, A. M. February 25th, do

The Common Prayer Book, by Thomas L. Plowman, March 7th, do

The Medical Repository, by Dr Mitchell and Miller, March 4th, do

The Domestic Chaplain, by John Stanford A. M. March 4th, do

Discourses Economical and Philosophical, by Thomas Ewell, M. D. March 17th, do

Elements of Geography, by Benj. Workman, A. M. March 17th, do

A Concise History of the United States, by John McCulloch, March 17th, do

American Annals, in 2 vols. vol 2d by Abiel Holmes, April 5th, do

Reports of Cases in the Supreme Court of 1804 and 1805, vol 2d, by Wm. Cranch, April 10th, do

Original Poems, by Thomas Green Fessenden, April 11th, do

The Village Compilation of Sacred Music, April 23d do

Practical Arithmetic, by Alexander Watt, April 6th, do

An Essay on the Human Character of Jesus Christ, by Wm Austin, June 6. do

The Picture of New York, by a Gentleman, June 16th, do

The Columbian Orthographer, by James Pike, June 16th, do

The American Spelling Book by Job Plimpton, June 16th, do

Map of Virginia, by James Madison, Wm. Prentiss, Wm Davis, July 23d do

Map and Subscribers names to the Life of Washington, July 21st, do

A Philosophical and Practical Grammar by Noah Webster, August 1st. do

Journal of the Voyages and Travels of a Corps of Discovery under the command of Captains Lewis and Clarke, by P Gass, Sept. 25th, 1809

Plan of the City of New York, from William Bridge's survey——by J. Riley, October 1st, do

The Columbian Harmonist, by Daniel Read, October 20th, do

Sentiments on Resignation, by Rosewell Messenger, October 26th, do

Map and directions for sailing into the Harbors of Salem, Marblehead, Beverly and Manchester by Nathaniel Bowditch, November 2d, do

Dobson's Letters, containing thoughts on the Scriptures account of Faith in Jesus, etc. Dec. 10th. do

Dobson's abridgment of Heath's translation of Baudelocquie's midwifery, with notes by William P. Dewees M.D. December 10th, do

The Baptism of believers only, and the particular communion of the Baptist Churches explained and vindicated, by Thos. Baldwin, Dec 30, do

Scott's Geographical Description of the State of Maryland and Delaware, December 30th, do

Aitken's collection of Divine Music—January 22d. 1808

Law's Harmonic Companion and guide to social worship, Feb. 29th, do

Do. Choice collection of Church Music February 29th, do

Poems by Richard B. Davis with a sketch of his Life, March 11th, do

Life of Hugh Peters. by Sl Peters, L. L. D. April 10th, do

Reports of Cases argued and adjudged in the Supreme Courts of the United States, in the Years 1805 and 1806 Volume 3d—by Willia Cranch, March 12th, do

The Planter's and mariner's Medical companion, by Jas Eweli, Mar. 24, do

The Useful Cabinet, Vol. 1st, No 1, 2, and 3, by B Dearborn, May 2d, do

French Tutor, by M Du Moulin, May 3, do

Gaine's Practice, May 30th, do

The Boston collection of sacred music, by Manning and Loring, June 20, do

Juvenile Expositor, or sequel to the common Spelling Book, by A Pickett, July 27th, do

Analytical Review of the Animal Economy, by Isaac Ball, June 1st, do

Reports of Cases of Practice determined in the Supreme Court of Judicature of the State of New York, from April Term 1794 to November Term 1805, both inclusive, printed by J. Riley, August 20th, do

The Beauties of the Childrens Friend, by Samuel Blake, Aug 29th, do

Pike's Arithmetic 3d edition by Nathaniel Lordam, August 31st, do

An Essay on the Principles of Political Economy, July 29th, 1805
The Lord's Songs, by Joshua Spalding, A. M July 24th, do
A new Grammar of the French Tongue. by a French Gentleman, July 31, do
A Treatise on Fractures, by P J. Desault, July 16th, do
The Journal of a Tour into the Territory Northwest of the Allegany mountains, by Thaddeus Mason Harris, A M. July 2d, do
A System of Military Tactics, by Daniel Fisher, August 5th, do
Sketches of the Life of the late Reverend Samuel Hopkins, D. D. by Stephen West, D. D. August 16th, do
A Magistaate's Guide and Citizen's Counsellar by John B. Colvin, Esq. September 18th, do
Moral Education, by a Disciple of the Old School Philosophy, Oct. 4th, do
The Columbian Harmony, by Charles Robbins, October 13th, do
The Systematic Spelling book, Oct. 21, do
The First Settlers of Virginia, by Messrs. J. Riley, and Co. Oct. 21, do
Truth and Reason, by J. Peel, Nov. 6th, do
The Medical Repository, by Samuel L. Mitchell, M. D and Edward Miller, M. D. 2d Hexade, Volume, 2d, November 8th, do
The History of the American Revolution, by Bernard Hubley, Volume 1st, November 8th, do
Chart of Long Island Sound, by Messrs. Canoone and Fosdick, Nov. 14, do
Reports of Cases in the Supreme Judicial Court of the state of Mass. from September 1804 to June 1805—November 25th, do
The Northern Harmony, by Abraham Maxim, November 25th, do
An examination of the representations and reasonings contained in seven Sermons by the Rev Daniel Merrill—by Samuel Austin, A. M. November 30th, do
Life of Washington, vol. 4th, by John Marshall, December 12th, do
Witchcraft, or the Art of Fortune Telling unveiled, by William F Pinchbeck, January 7th, 1806
An attempt to explain God's Gracious Covenant, by John Hubbard Church, January 27th, do
The Northern Harmony—by Abraham Maxim, February 6th, do
An Answer to War in Disguise, by Messrs. J. Riley, and Co. New York, February 15th, do
A Compendious Dictionary of the English Language—by Noah Webster, February 24th, do
Letters from Europe during a Tour thro' Switzerland and Italy, in 1801 and 1802, 2 vols. in 1, March 6th, do
The Elements of Chess, by Wm. Pelham, March, 12th, 1806
Cushing and Appleton's edition of Salust, March 19th, do
A Treatise on the office and duty of a Justice of the Peace, Sheriff, etc. by James Ewing, March, 22d, do
The Justices and Constables Assistant, by William Graydon, March 24th, do
The Fifer's Companion, No. 1 by Cushing and Appleton; March 26th, do
The Dyer's Companion, in two parts, by Elijah Bemiss, March 31st, do
The Salem collection of Classical Sacred Music, by Cushing and Appleton, April 3d, do
American Annals, from its discovery in 1492 to 1806, by Abiel Holmes, D. D. April 4th, do
The Norfolk collection of Sacred Music, by Amos Albee, April 5th, do
The Art of Singing, in three parts, by the Rev. Andrew Law, April 22d, do
A choice collection of Evangelical Hymns from various Authors, by Ralph Williston, May 6th, do
The American Gardiner's Calendar, by Bernard McMahon, June 16th, do
The Constitution of the Presbyterian Church, by the Rev. Dr. Green, June 17th, do
A Geographical description of Pennsyvania, by Joseph Scott, July 2d, do
The Vermont Disciplinarian, by John W. Brownson, July 28th, do
The American Dispensatory, by John Redman Cox, M. D. Aug 29th, do
The American Dispensatory, by do do October 6th do
Travels in Louisiana and the Floridas, October 23d do
Means of Preserving Health and preventing diseases, by Shadrach Ricketson, November 6th, do
The abortion or the young steam engineer's Guide, December 10th, do
The open Communion with all who keep the Ordinances as Christ deliver'd them to the Saints—by Manning and Loring, December 31st, do
Twelve Letters, addressed to Rev. Samuel Austin, A. M. by the Rev. Daniel Merrill, A. M. Dec. 31st, do
Thoughts on part of the Discourse delivered by Mr Key against the Universal Salvation of Men, by John Pearce, January 1st, 1807
Discourses on modern Chemistry, by Dr. Ewell, January 1st, do
The American Reader, by Herman Daggett, A. M. January 3d, do
The Examination and rejection of Thomas Ledlie Birch, by Rev. T. L. Birch, A. M. January 12th, do
Selection of Hymns, by the Rev. Dr Rippon, January 26th, do
Catalogue in Latin of the Graduates of Har-

vard University, from the Year 1642, by J Cushing, Jan. 29th, 1807

Bill of mortality of the Presbyterian and Baptist Congregations, of Morristown, Penn. during 38 years, by Wm Cherry, (Sexton) do do

The Salem Collection of Classical Sacred Music, 2d edition, by Manning and Loring, January 29th, do

An improved American Primer, by Joshua Cushing, January 29th, do

Reports of Cases in the Supreme Courts of Errors and Appeals, by William W. Hening, and Wm. Mumford, January 31st, do

Map of Pennsylvania, by Reading Howell, February 5d do

Rural Economy, by S. W. Johnson, do do

The Echo, a Poem, N. Bayley, Feb. 4th, do

Elements of Useful Knowledge, Vol. 3d, by Noah Webster, Feb. 19th, do

Eclesia Harmonia, by Charles Woodward and John Aitkin, Feb. 21st, do

Geographical Compilation, D L. C. 24th do

The American Universal Geography, by the Rev J Morse Feb 25th, do

A Spelling, pronouncing and parsing Dictionary, by Abel M Flint, A. M. February 25th, do

The Common Prayer Book, by Thomas L. Plowman, March 7th, do

The Medical Repository, by Dr Mitchell and Miller, March 4th, do

The Domestic Chaplain, by John Stanford A. M. March 4th, do

Discourses Economical and Philosophical, by Thomas Ewell, M. D. March 17th, do

Elements of Geography, by Benj. Workman, A. M. March 17th, do

A Concise History of the United States, by John McCulloch, March 17th, do

American Annals, in 2 vols. vol 2d by Abiel Holmes, April 5th, do

Reports of Cases in the Supreme Court of 1804 and 1805, vol 2d, by Wm. Cranch, April 10th, do

Original Poems, by Thomas Green Fessenden, April 11th, do

The Village Compilation of Sacred Music, April 23d do

Practical Arithmetic, by Alexander Watt, April 6th, do

An Essay on the Human Character of Jesus Christ, by Wm Austin, June 6, do

The Picture of New York, by a Gentleman, June 16th, do

The Columbian Orthographer, by James Pike, June 16th, do

The American Spelling Book by Job Plimpton, June 16th, do

Map of Virginia, by James Madison, Wm. Prentiss, Wm Davis, July 23d do

Map and Subscribers names to the Life of Washington, July 21st, do

A Philosophical and Practical Grammar by Noah Webster, August 1st do

Journal of the Voyages and Travels of a Corps of Discovery under the command of Captains Lewis and Clarke, by P Gass, Sept. 25th, 1809

Plan of the City of New York, from William Bridge's survey—by J. Riley, October 1st, do

The Columbian Harmonist, by Daniel Read, October 20th, do

Sentiments on Resignation, by Rosewell Messenger, October 26th, do

Map and directions for sailing into the Harbors of Salem, Marblehead, Beverly and Manchester by Nathaniel Bowditch, November 2d, do

Dobson's Letters, containing thoughts on the Scriptures account of Faith in Jesus, etc. Dec. 10th. do

Dobson's abridgment of Heath's translation of Baudelocquie's midwifery, with notes by William P. Dewees M.D. December 10th, do

The Baptism of believers only, and the particular communion of the Baptist Churches explained and vindicated, by Thos. Baldwin, Dec 30, do

Scott's Geographical Description of the State of Maryland and Delaware, December 30th, do

Aitken's collection of Divine Music—January 22d. 1808

Law's Harmonic Companion and guide to social worship, Feb. 29th, do

Do. Choice collection of Church Music February 29th, do

Poems by Richard B. Davis with a sketch of his Life, March 11th, do

Life of Hugh Peters. by St. Peters, L. L. D. April 10th, do

Reports of Cases argued and adjudged in the Supreme Courts of the United States, in the Years 1805 and 1806 Volume 3d—by Willia. Cranch, March 12th, do

The Planter's and mariner's Medical companion, by Jas Eweli, Mar. 24, do

The Useful Cabinet, Vol. 1st, No 1, 2, and 3, by B Dearborn, May 2d, do

French Tutor, by M Du Moulin, May 3, do

Gaine's Practice, May 30th, do

The Boston collection of sacred music, by Manning and Loring, June 20, do

Juvenile Expositor, or sequel to the common Spelling Book, by A Pickett, July 27th, do

Analytical Review of the Animal Economy, by Isaac Ball, June 1st, do

Reports of Cases of Practice determined in the Supreme Court of Judicature of the State of New York, from April Term 1794 to November Term 1805, both inclusive, printed by J. Riley, August 20th, do

The Beauties of the Childrens Friend, by Samuel Blake, Aug. 29th, do

Pike's Arithmetic 3d edition by Nathaniel Lordam, August 31st, do

LIST OF BOOKS, &c. CONTINUED—FROM 1808 TO 1811.

The Reader, a School Book, by Abner Alden, A. M. August 30th, 1808

The Juvenile Spelling Book, etc. by A Pickett, September, 1st, do

A System of Divinity founded wholly on Christ, which by one principle offers an exposition of all the works of God——by Joshua Spalding, September 22d, do

Manœvers of Horse Artillery, by General Cociuzko, Translated by Jonathan Williams, November 30th, do

The Young Mill-wright's and Miller's Guide, by O Evans, Dec 30, do

Reports of Cases in the Supreme Court of Virginia, Part 2d, Vol. 1st, by Heming and Mumford Dec 30, do

The American Tutor's Guide, being a compendium of Arithmetic in 6 parts, by James Thompson, 1st edition, December 30th, do

Geodasia, or a Treatise of Practical surveying M. W Conway, Nov. 12th, do

The Meridian Harmony, by Zedekiah Sanger, & others, Jan 10th, 1809

A Compend of History from the earliest times, by Samuel Whelpley, A M February 2d, do

Reports of Cases argued and adjudged in the Court of Appeals in Virginia, vol. 3d, 1805, by Daniel Call, February 10th, do

Conversations on Chemistry, 2d American edition,——by J. Humphreys, March 13th, do

Atal, translated from the French, by Caleb Bingham, A. M. Mar. 13th, do

The Holy Bible, containing the Old and Testament, translated from the Greek by Charles Thompson, 4th vol. March 14th, do

The Pharmacopœia of the Massachusetts Medical Society, Boston, published by Edward and J Larkin 1808, March 14th, do

The Philadelphia Medical Dictionary, compiled by John Redman Coxe, M D. April 1st, do

New Primer, by Samuel Wood, April 3, do

New York Preceptor, do do do

Critical Pronuncing Dictionary, by John Walker, April 20th, do

The Gospel Plan, or a systimatical Treatise on the leading doctines of Salvation, by Wm. C. Davis, May 2, do

Memoirs of the Philadelphia Society for promoting Agriculture, do do

An Essay on War, proving that the Spirit of War is inimical to the Spirit of the Gospel,——by J. J Wells, June 19th, do

Two new Songs, a Turkish Dance and a Quick Step, July 1st, do

American Biographical and Historical Dictionary, by William Allen, A. M. September 1st, do

An Essay on the First Book for Children, by Samuel H. Saunders, junior, October 11th, 1809

Art of Playing the Organ, or Piano Forte, by Andrew Law, Oct 27tt, do

The Cries of N. York, by Samuel Wood, November 3d do

New York Spelling Book, do do do

Ragos Historicos y Morales Sarcados de Antores Celebres de Diversas Narcoves—Par Santiago Matthias O. Conway, December 18th do

A late discovery extremely interesting to Planters and Farmers relating to Fertilising poor and exhausted Lands, Geo. Redd, Jan. 16, 1810

The Practice and Jurisdiction of the Court of Admiralty, by John E. Hall, January 30th, do

Form of Conveyancing, etc. by William Graydon, vol 1st, March 23d, do

The Middlesex Songster, containing a collection of the most approved Songs now in use, by D. Belknap, March 28th, do

A Pack of Political Cards, 52 in number, May 1st, do

Greek Grammar, by John Smith, S. T. D. May 19th, do

Life of Washington in German, by B Bartgis, May 19th, do

New York Medical and Philosophical Journal and Review, May 19th, do

Hutton's Practical Arithmetic, corrected and enlarged by D. P. Adams, May 19th, do

Pike's Arithmetic abridged from the third edition, by Nathaniel Lord, A. M. May 23d, do.

The Speaker, being the 4th part of a Columbian Orator, by Abner Alden, May 23d, do

A Course of English Reading ascending from easy and instructive subjects by David Allinson, June 2d, do

Dickson's Digest, concerning the duty of Sheriffs, Coroner, Constables, etc. July 30th, do

A new Gramatical System of the English Tongue, by S. Potter, Oct. 27, do

An English Spelling Book, by Jas Pike, December 6th, do

Aphorisms of Man, Manners, etc. by Jo. Bartlett, December 11th, do

Medley, by Catharine Weller, Dec 15th, do

History of Printing, by Isaiah Thomas, December 24th, do

A New arranged Hymn Book, 1st edition, by Ambrose Henkle, and Co. January 5th, 1811

An abridgement of the Book of Martyrs, by Samuel Wood, January 12th, do

The Newburyport Collection of Sacred Music, A, Blanchard, Jan 14th, do

An American Musical Primer, by Amos Blanchard, January 14th, do

Stranger's Guide to the city of Philadelphia, by John A. Paxton, Dec. 23, 1811
The Nothem Harmony, by Abraham Maxim, Dec 24th, do.
Supplement to the Musical Primmer by Andrew Law, February 13th, 1812.
A Treatise of plain and spherical Trigonometry, by F. Nichols, Feb. 13, do.
The Life Adventures and unparallelled suffering of Andrew Ochler, May 25th, do.
The American Orator, by Increase Cooke, June 4, do.
Introduction to the American Orator, by Increase Cooke, June 4, do.
Pettibone's Economy of Fuel, &c. by Daniel Pettibone, July 15th, do.
The History of Kentucky, by Humphrey Marshall, September 7, do
Clark's Miscellany, in prose and verse, October 5, do.
Jesus the Messiah suffering dying, &c. by Wm. Christie, October 9, do.
An engraving of the Rev. John Carroll, D D. by Benj Tanner, Sept. 28, do.
Mead's Selection of Hymns, &c. Nov. 2, do.
Letter explaining the Abrahamic Covenant, &c. by Jacob J. Janeway, November 4, do.
A new nutucal version of the whole Book of Psalms, November 2, do.
The New-York Reader No. 1 by S. Wood, November 17, do.
A new Chart of Massachusetts Bay, drawn from the latest authorities, by Samuel Lambert, November 20, do
Archives of Useful Knowledge, by James Mease, December 5, do
Memoirs of the War in the Southern Department, February 5, 1813.
Numbers 1, 2 and 3 of vol. 3 Archives of Useful Knowledge, March 5, do
Observations on the Epidemical Diseases of Minorco, April 20, do
New-York Reader No. 2, by Samuel Wood, April 22, do
Sequel to the American Orator, or Dialogues for schools, by Abbe Maury, May 31, do
A Chart of Nantucket Shoals, etc. by Cushing Appleton and Samuel Lambert
A Horse drawn and deposited by William Thornton, July 3, do
A Topographical Analysis of North Carolina, by Thomas Award, July 9, do
Geographical and Statistical view of Massachusetts proper, by Randolph Dickinson, August 25, do.
An Essay on the Plan of Salvation, etc. by Asa Shinn, October 5, do
Blunt's American Coast Pilot, Oct. 6, do.
Biography of James Lawrence, by L. Deare, October 21, do.
The Elements of Natural or Experimental Philosophy, by Thomas Dobson October 23, do.
A map of northern parts of the United States, by James Whitelow, October 23, do.
The political reconciling pamphlet, by Enos. Weed, January 26, 1814.
A compendious and complete system of modern Geography, or a view of the present state of the world; being a faithful abridgement of the American Universal Geography—by Jedidiah Morse, Feb. 28, do.
A Key to to the Figurative Language fonnd in the Holy Scriptures in the form of questions and answers, by Ethan Smith, February 28, do.
Tables for computing the effect of refraction on Lunar distances, by Peter Delamar, imoroved and republished by David M'Clure, Mar. 15, do.
A statistical account of the United States, with Topographical tables of the Counties, Towns, etc. by John Mellish, April 5, do.
Travels in the United States, in the year's 1805 and 1807, do. do. do
A compendious system of Universal Geography, by John Kilbourn, May 3, do.
Jenning's Portable warm and hot bath, by Samuel K Jennings, July 26, do.
A Treatise on Surveying, &c. by John Gummerd, Aug 8, do.
A Sketch of Ancient Geography, for the use of schools, by the Rev. John Holland, September 20, do.
Geography, or a description of the World, in three parts, by Daniel Adams, September 21, do.
Messrs West and Blake's Synopsis of Artillery, etc. October 8th, do.
The Handelian Reposity, No. 1, containing Hill's Introduction to singing, and a selection to Sacred Music, by Uric K. Hill, October 14, do.
The Connecticut Town Officer, by Samuel Whiting, October 13, do.
The Orthographer, by Arthur Donaldson, October 25, do.
Elements of Greek Grammar, October 28, do.
Defence of Brigadier General Hull, by himself, November 19, do.
Elements of Geometry, by John Playfair November 28, do:
The surprising case of Racheal Baker, who prays and preaches in her sleep, by Charles Mais, Dec. 15, do.
"The Youth's Cabinet" "The Child's Cabinet, and "The Infant's Cabinet" by Samuel Wood, of New-York, January 31, 1815.
A compendium of Religious Doctrines, etc. by R. Dickinson, Feb. 15, do

The Seaman's Daily Assistant, by William Elliot, February 17, 1815
William Elliot's improved New-York Double Directory, February 18, do.
A Collection of Hymns and Liturgy, February 20, do.
A List of Innkeeper's on the road from Augusta, Geo. to New-York, and also from Boston to New-York, by Asa Hall, March 28, do.
Devotional Somnium; or a collection of prayers and exhortations uttered by Miss Racheal Baker, May 28, do
The Office and Authority of a Justice of the Peace, in the State of Maryland, by John E. Hall, June 24, do.
The Pedulion Applicable to Trigonometry, Navigation, astronomy, etc. invented and published by David Mc Clure, Principal of the Nautical and Mathematical Academy, Philadelphia, June 27, do.
A Treatise of Plain Trigonometry, by Jeremiah Day, June 27, do.
The Child's Magazine in two volumes, by S. Wood, September 16, do.
Historiettes Nouvelles A L'usage de la Jeunesse des deux sexes et des ecoles, par M M Nanesca et Value —il faut instruire en amusant, October, 23, do.
New-York Reader, No. 3, by Samuel S. Wood and Sons, Oct. 2, do.
Volume 1st of a New System of Mythology, in 2 volumes, by Robert Mayo, January 8, do.
An Epitome of Ancient Geography vol. 1st, by Robert Mayo, January 8, 1815.
The American New Dispensatory, by Jas. Thacher, M. D. March 30 do.
A Chart of the Coast of Connecticut, New-York, New-Jersey and the Delaware, drawn from the latest Authorities, by Samuel Lambert. April 6, do.
Scenes in the Word of Spirits, Translated from the German of Henry Rilling, by Gottlieb Shober. April 29. do.
Beauties of Christianity and Religious Magazine, by T. Sandwich. May, 22, do.
The Church Hymn Book, by Paul Henkel. May 22, do.
The Christian Catechism in German, by Paul Henkel, May 22, do.
The same in English, both for Solomon and Ambrose Henkel. do. do. do.
The Psalms of David, imitated in the language of the New Testament, by I. Watts, D. D. And to the Psalms is added, A Selection of Hymns, by Timothy Dwight D. D. June 11, do.
A Print of the Hon. Theophilus Parsons, by M Thomas. June 6, do.
The Beauties of Christianity, and Religious Magazine, by T. Sandwich. July 8, do
The Ohio Gazetteer; or Topographical Dictionary, by John Kilbourn, A. M. August 13, do.
The First Book for Children, in German, by Ambrose Henkel May 22, do.
A System of Universal Geography, for Common Schools, August 30, do.
The Church Hymn Book, by Paul Henkel, September 12, do,
Instruction in the Principles and Duties of the Christian Religion, by Paul Henkel. September 12, do,
The Medical Companion, by James Ewell. October 28, do.
Sacred Music, in German, by Joseph Funt. October 29, do.
Letters and Papers recommending the Patent Portable Bath, by Samuel K. Jennings. February 21, 1817.
A Selection of Hymns, from various Authors, by John Leibert, February 21, do.
A Syllabus of Lectures of the Visions of the Revelations, by Amzi Armstrong. February 21, do.
The Poems of Ossian, translated by James M'Phearson, etc. February 21, do.
An Elementary Treatise on Minerology and Geology, by Parker Cleaveland March 19, do.
Greenleaf's Statistical View of the District of Maine. March 19. do.
A Map of the District of Maine, by Moses Greenleaf, do do.
Ramsay's Life of Washington. April 19, 1817.
History of the Late War, by H M. Brackenridge. April 9, do.
John Rauch's Receipts on Dyeing. do . do.
Brook's General Gazetteer, improved, etc. by J. Bain. April 9, do.
Reports of Cases argued and adjudged in the Supreme Court of the United States in the Feb. Terms of 1812, 1813, 1814, and 1815, vols 7, 8, and 9, by Wm. Cranch. April 9, do
No. 1 and 2, vol 1st of the American Magazine, by Horatio Gates Spafford, A. M. and F. A. A. April 24, do.
The American Critical Pronouncing Spelling Book, by Seth Leonard, Author of the New System of Arithmetic, etc. April 26, do.
Blair's Universal Preceptor, published by Edward and Richard Parker, June 14, do.
Marshall's Life of Washington, (New Edition) June 18, do.
Collection of the Official Accounts of all the Battles fougth by Land and Sea between the Navy and Army of the United States and the Navy and Army of Great Britain, during the years 1812, 1813, 1814,

and 1815, by H. A. Fay. June 28, '17

Chinese Philosophical and Mathmatical Trangram, with a Model, by Jas. Cox. August 13, do.

Artillery Discipline, to which is prefixed, the Soldier's Drill Aug. 28, do

Modern Book-keeping, by Double Entry, by Charles Grisher. Sept. 9, do.

The Child's A B C Book, in German, by Solomon Henkel. Dec. 3. do.

The American New Dispensatory by Jas. Thatcher. Dec. 10, do.

A Map of the State of New-Hamshire, by Philip Garrigan. Jan. 8, 1818.

A New and Compendious System of Book-keeping, by D. C Roscoe Jan. 30, do.

The Hallowell collection of Sacred Music. April 10, do.

A General Plat of the Military Lands between the Mississippi and Illinois Rivers, by Nicholas B. Vanzant. June 12, do.

A Map of the City of Washington in the District of Columbia, by Robert King. June 12, do.

A Map of the late surveys in the northern district of Alabama Territory, deposited by John Gardiner. June 12, do.

A Digest of the General Acts of the Corporation of the City of Washington to the 1st of January 1818, by William Hewit, Register, deposited by Jacob Gideon. June 22, do.

The Federalist, (New Edition.) deposited by Jacob Gideon, jr. June 22, do.

The American Domestic Medicine, or Medical Monitor, by H. G. Jameson. July 16, do.

A Treatise on Political Economy, deposited by J. Milligan. Nov. 28, do.

The American Gardener, by John Gardiner and Joseph Hepburn, by Joseph Milligan. Nov. 28, do.

Theology explained and defended, in a series of Sermons, by Timothy Dwight. Jan. 11, 1819.

The Freemason's Monitor, by Thos. Smith. January 13, do.

Statistical Annals, embracing views of the Population, Commerce, Navigation, etc etc etc. by Adam Seybert, M. D. etc. Jan. 14, do.

The Selt Instructor, or a System of Practical Arithmetic, by John White, Jan. do do

A Practical System of Mental Arithmetic, by the same. Jan do do

A Key to the Appendix in White's Mental Arithmetic.

Collectanea Græca Menira, etc. by Andreas Datzel, etc. June 16, do.

The Elements of Greek Grammar, with notes, by R. Valpy. Jan 25, do.

Elements of Logic, by Levi Hedge, A. M. Jan 25, do.

An Introduction to Ancient and Modern Geography, on the plan of Goldsmith and Guy, with an Atlas, by by J. A. Cummings. do do do

First Lessons in Geography and Astronomy with seven plain Maps, by J. A Cummins. do do do

Questions on the Historical parts of the New Testament, for Sunday exercises and family schools. by J. A. Cummings. do do do

Letters from Washington, on the Constitution and Laws; with Sketches of some of the prominent pucic characters of the United States, written during the winters of 1817 and 1818, by a Foreigner, deposited by Jabob Gideon. Jan 23, do

Nos. 1, 2, 3 and 4 of George Geib's Analytical and Grammatical System of teaching Music in all its branches, and the practice of the Piano Forte. Aug. 12, do

Washington Sheet Almanac with plans and explanations of the Public Offices, by William Elliot. Feb. 3, 1820.

A Treatise on the influence of Physical and Moral Causes on Man, and on the means of preserving health, by Ettienne Tourtelle. May 4, do

A Map of the Hudson, between Sandy Hook and Sandy Hill, published by A. T. Goodrich. July 1, do

Recantation, a Novel, in 2 volumes, by the same. Nov. 28, do

Periodical Sketches, by an American Patriot, by the same do do do

A Masonic Ode on the dedication of the Grand Masonic Hall in Philadelphia, by Benj. Carr. Nov. 29, do.

A Collections of Chants and Melodies, adapted Psalms and Hymns of the Episcopal Church, by the same. do do

Lectures on the Natural History and management of the Teeth, by L. S Parmley. Nov. 27, do

Nature displayed in her mode of teaching language to man, etc. by N. G. Maxwell, November 24, do

Sketch book of Geoffry Crayon, Gent. No. 5 8vo. Van Winkle, New-York. January 23, 1820

Reports of Chancery Cases of New-York, by William Johnson, New-York, January 31 do.

American Preceptor, improved, by C. Bingham & Co. February 8 do

Statistical view of the Moneyed Institutions of New-York, one sheet, by Thomas H. Goddard, New-York, February 22 do

Tour of James Monroe, President of the United States, through the northern and eastern States, Silas Andrews, February 22, do.

Set of Chaunts adopted to the Hymns, etc of the Protestant Episcopal

Church, Jonathan M. Wainwright, February 25, do.

Conjugal Happiness, for the use of Husband and Wife, by Arthur Shipley Portland, Maine, March 1, do.

Spelling Book of the English Language: or, the American Tutor's Assistant, by Elisha F. Marshall and Samuel Rogers, March 9, do.

New Introduction to Book-keeping, after the Italian method, by Cushing and Appleton, March 17, do.

Digested Index, to the Term Reports of the king's bench, and Common Pleas, from 1785, to 1818, John E. Hall, March 20, do.

Debates, Resolutions, etc. of the Convention at Portland, for the purpose of forming a Constitution for the State of Maine, Jeremiah Perly, March 20, do.

uvenile Expositor, or American School Class-book, No. 4, enlarged and improved, by A. Picket, March 20, do.

Misica Sacra, by William Williams, April 11, do.

National Calender, for 1820, by Peter Force, Washington, D. C. April 12, do.

Giovanni Svogarro, a Venetian tale, by C. S. Van Winkle, April 24, do.

Correct Map of the City of Washington, one sheet, by Peter Force, April 20, do.

Sketch Book of Geoffry Crayon, No 6, by C. S Van Winkle, April 24, do.

Juvenile, or Universal Primer, by A. Picket, April 27, do.

Juvenile Spelling-book; or, American school Class-book, No. 1. by A. Picket, April 27, do.

Reports of Cases argued in the Supreme Court of Pennsylvania, by Phillip H, Nickin, April 27, do.

Reports of Cases, argued in the Supreme Court of Judicature, and in the Court for the trial of Impeachments and the corrections of Errors, in the state of New-York, by William Johnson, May 25, do.

Narrative of Levi Hathaway, giving an account of his life, experience, etc. Levi Hathaway, May 29, do.

American Builder's Companion; or, a system of Architecture, adapted to R. P. and C. Williams, Aug 13, do.

Elements of Conic Sections, by F. Nichols. August 18, do.

Juvenile Penman; or, Practical Writing-book, in 4 books, by A. Picket, August 25, do.

Lancastrian Geography, designed for the use of schools, conducted on the Lancastrian System, by Charles C. Andrews, August 31, do.

History of England, from the first invasion Julius Cæsar, to the accession of George IV. by William Grimshaw, September 26, do.

Columbian Spelling-book, by H. and E. Phinney, September 26, do.

Tables of Interest and Discount, calculated on the principle of 365 days to the year, etc. by Elam Bliss, September 26, do.

Poetical Works of John Trumbull, L. L. D. John Trumbull, September 26, do.

Poems on Religious and Historical Subjects, by Refine Weeks, October 15, do.

Juvenile Instructor; or, American Class-book, No 2. by Albert Picket, October 15, do

Juvenile Mentor; or, select Readings: being American Class-book, No. 3. by Albert Picket, October 15, do.

Digest of the Laws of Pennsylvania, from the year 1700, to 1818, by P. H. Nicklin, June 7, do;

Report of the Cases argued, etc. in the Supreme Court of Errors, of the State of Connecticut, by Oliver D. Cooke, June 17, do

Compendium of Physiological and Systematic Botany, by O. D. Cooke, June 17, do.

Revolving Alphabet; or, Child's Instructive Toy, by Russel Bull, June 17, do.

Complete List of Luner Tables, by Samuel P. Watkins, June 29, do.

Guide to the English Language, by Joseph Hull, June 30, do.

American Builder's Companion, by R. P. and C. Williams, July 3, do.

Selfeggio Americano, by Uri K. Hill, June 14, 1821.

Philosophical Melodies, 1 vol. Poetry, by S. Wadsworth. Feb. 1, do

The Pharmacopœia, of the United States of America, 1820, by the authorities of the Medical Societies and Colleges, deposited by Charles Ewel and Timothy Bellington. Oct. 31, do

A System of Materia Medica and Pharmacy, by J. Murray. Published and deposited by Thomas Dobson.—

Selections of a Father for the Use of his Children, by Isaac Gomez, July 12, do.

Inquiry concerning the most important truths, by John Potter, Aug 2, do

Life of Oliver Hazard Perry, by Wm. S. Marsh, August 3, do.

List of Patents granted by the United States, from 1790 to 1820, by Alfred Elliot, August 3, do.

Picket's American School Class-book, No. 7; being a Geography for the use of Schools, etc by A and J. Picket, October 15, do.

Dabols Practical Navigator, by Samuel Green, November 12

Brief Remarker, on the ways of man, by

Ezra Sampson, November 16 1821

Thoughts on Political Economy, by Daniel Raymond, November 28, do.

Elementos de la Lengua Castellano, etc by Mariano Velasquez de a Cadena, Nov 21, do.

A Manuel of Chemistry: containing the principal facts of the science, arranged in the order in which they are discussed, and illustrated with Lectures at the Royal Institution of Great Britain, by William Thomas Brande, Secretary of the Royal Society London, Fellow of the Royal Society Edinburg, &c. &c. The first American, from the second London edition, three vols in one. To which is added notes and emendations, by William James McNeven, professor of Chemistry in the College of Physicians and Surgeons in the University of the state of New-York, and member of the Literary and Philosophical Society, by George Long, November 23, do.

Noah, a Poem, by Paul Allen, J. Cushing and J. Jewitt, November 23, do.

Zamoden, a Tale of the wars of King Philip, in six Cantos, by James Eastburn December 1, do

A Treatise on the civil Jurisdiction of a Justice of the Peace, in the state of New-York, by Enoch Cowen, esq. Counsellor at Law. Wm. Gould & Co. December 8 do.

Views of the Falls of Niagara, by Thomas H. Wentworth, December 12, do.

A Manuel, or Hand Book, intended for convenience in Practical Surveying, etc. etc. by G. Messenger. Dec. 10, do

Musical Monitor, or New-York collection of Church Music; consisting of Psalm and Hymn tunes, Anthems, etc. arranged for two, three, or four voices; compiled for the promotion and improvement of Sacred Music; designed particularly for the convenience of societies and schools. "House of our God with Sacred Anthems ring," by William Reed, and Ephraim Reed A and P. Dec. 17, do

A Just Standard for pronouncig the English Language; arranged in catechetical order; an organization of all the alphabets, etc. etc. by Lyman Cobb Dec. 17, do

The Artillerist; comprizing the drill without arms, exercise and movements of the Light and Horse Artillery; also, rules for the formation of Companies and Regiments, by Pierce Darrow, liet. col of Infantry, author of "Militia Tactics," and teacher of Sword Exercise. Dec. 8 do

Scott's Militia Tactics, comprising the duty of Infantry, Light Artillery and Riflemen, in six parts, by Pierce Darrow, lieut col. of Infantry Author of the Artillerist, teacher of Military Tactics, etc. etc. etc. Dec. 18, do

Memoir of the life and character of the Revd. Samuel Bacon, etc. etc. by J. Ashman Dec. 24, do.

NOTE.—The names of the persons depositing the books are here given, withou, always distinguishing who is the author.

SUPPLEMENT TO THE LIST OF PATENTS,

[FROM 1819 TO 1822.]

A.

Auger, twisted screw. Wm. Holmes, Winchester, N. H.	April 4th 1820.
Aqueduct pipes made of marble. Thomas B. Robbins, Stockbridge, Mass.	Mar. 19, 1821.
Anti-dyspeptic Pills. George Smith, New-York.	August 7, "
Andirons, improvement in. William Pye, New-York.	Nov. 16, "
Anti-dysenteric medicine. John G. Vought, Rochester, New York,	Dec. 4, "

B.

Boring holes in posts, machine for. Jas. Corbett, West Hanover, Penn,	Dec 21 1819
Brushes made of broom Corn. B. Byberry, Philadelphia, Penn.	Dec. 21, "
Bridges, improvement in. John Bragg, Montreal, Canada	Jan. 4, 1820
Bread, improvement in making. Ephraim Treadwell, Philadelphia	Jan. 10, "
Boats, improvement in the mode of geering for propelling. Daniel French and Fling Bliss, Cincinnati, Ohio.	Jan. 22, "
Bridges, improvement in. Ithiel Town, Fayetteville, N. C.	Jan. 28 "
Boiling salt, improvement in. Osborn Parsons, Pittsburg, Penn.	Apl. 4, "
Bridges, improvement in wooden aqueduct. M. Lewis, Chenango, N. Y.	Apl. 11, "
Brewing by steam. Harvey Hackley, New-York,	Apl. 21, "
Boiler, water and steam still. Stephen Stillwell, Bainbridge, N. Y.	June 14, "
Boats, mode of passing up rapids, &c. Lemuel Thwing, Dedham, Mass	Aug. 12, "
Boot and Shoemaker's workstand. Wm. A. and N. Kelly, Littleton, Mass.	Oct. 13, "
Bark, &c. machine for breaking. Nathan Sear, Hudson, New-York.	Oct. 13, "
Bee-hive, improvement in the. Edward Blake, Hartford, Maine.	Nov. 16, "
Book-binding, improvement in bands for. D. K. Van Vechton, N. Y.	Dec. 12, "
Boats made of metal. Thos. J. Bond, Baltimore.	Dec. 21, "
Boots and Shoes cutting by rule. Simeon Hart, Monckton, Vermont.	Mar. 3, 1821
Bridle for stopping Horses. Peter Sathrop, Louisa county, Va.	Mar. 20, "
Ball speeder for roping cotton. Silas Shepard and Cromwell Dean, Taunton, Mass.	Mar. 23, "
Boat, improvement in the. N. C. Dawson and Anthony Rucker, Pedler's Mills, Amhert county, Va.	Apl. 3, "
Bricks, machine for making. Seth Belknap, Newburgh N. Y.	May 17, "
Boiler, improvement in water and steam still. S. Stillwell, Bainbridge, N. Y.	June 9, "
Braiding machine. John Thorp, Providence, Rhode Island.	Aug. [illegible] "
Boots and Shoes, improvement in the manufacture of. D. Peck, N. Y.	[illegible] "
Boiler, stove boottom. Ben. Simonds, jun. Bedford, Mass.	Oct. [illegible] "
Bedsteads, improvement in. Daniel Powles, Baltimore.	Oct. 31, "
Band-boxes, machine for cutting the tops and bottoms of. Benj. Mestayer, New-York.	Nov. 13,
Bark mill, improvement in the. E. & J. Trash, Sangerfield, N. Y.	Nov. 22, "
Boilers for steam Engines. Thos Skidman, N. Y.	Nov. 30, "
Bedsteads, improvement in. Peregrine Williamson, Baltimore.	Dec. 6, "
Boilers, improvement in steam. Stephen Baker, N. Y.	Dec. 13, "
Bonnets, improvement in grass. Gurdon & Sophia Wells, Wethersfield, Conn.	Dec. 29, "
Boots and Shoes, improvements in water proof. Aaron Dana, Boston.	Dec. 31. "

Clocks, improvement in Simon Willard, Boston. . . . . Dec. 13, 1819,
Cloth shearing machine. Elihu Hotchkiss and Aaron Jaguas, Windham, Vermont. . . . . Dec. 15, ..
Churn, improvement in the. John Hall, Hillsborough, N. H. . . . Dec 15, ..
Candles, moulding sperm. W. W. Swain, New-Bedford, Mass. . Jan. 14, 1820
Corn sheller, improvement on W. Jones. Rufus Guthrie, Brimfield, Mass. . . . . Jan. 18, ..
Coating for ship's bottoms. James Russel, New-Bedford, Mass . Jan. 29, ..
Cement, water proof Canvass White Whitestown, Oneida, N. Y. . Feb. 1, ..
Coffee Roaster, improvement in the. Peregrine Williamson, Baltimore, Mar. 20, ..
Circular Saw Robert Eastman & Josiah Jaquitt, Brunswick, Mass. . Mar. 26, ..
Canals, machine for excavating, Ichabold L. Skinner, Hartford Conn. May 3, ..
Cheese, mode of packing. Alexander Norton, Goshen, Conn. . . May 6, ..
Corn Cracker. Nathan Read, Belfast, Maine. . . . May 8, ..
Cloth, Machine for knapping, &c. John Byram and S. D. Fuller, Mendham, N. J. . . . . April 4, ..
Coal, &c. machine for drawing. Edward E. Dauley, Freedonia, Indiana May 12, ..
Candlewick, machine for making. Shaylor Ives, Chiticothe, Ohio. . May 17, ..
Carrying Knife. Daniel Tomlinson, Brookville Conn. . . July 16, ..
Carpeting, ingrained. John and Nicholas Haight, New-York. . . Aug 12, ..
Clock$ and Watches. James Henry, Maysville, Kentucky. . . . Sep. 13, ..
Cocks, improvement in. E. Hubball, Baltimore. . . . Oct 4, ..
Cotton, machine for spinning. William Bald, jun. Providence, R I. . Oct. 4, ..
Cocks, Valve. John Cluley and Benjamin Stancliffe, Philadelphia. . Nov. 8, ..
Chimney's, machine for sweeping. Samuel S. Edmonston, New-York. Nov. 8, ..
Cooperage, machine for doweling. Ralph Hunt, Ontario, New York, Dec. 11, ..
Corn shelling machine. Henry and Elbert J. Rosevelt, New-York Jan. 26, 1821
Cordage, machine for laying. Robert Graves, Boston. . . Feb. 1, ..
Cement, water proof, Canvass White Whitestown, New-York. . Feb. 17, ..
Cotton, foot geer for cleaning. Wm. Gould, M'Intosh county, Georgia, Feb 20, ..
" Roping (Double Succeder.) Paul Moody, Boston. . Feb 19, ..
" machine for roping or spinning. do. do. . . Feb. 19, ..
" spinning frames. Paul Moody, Boston. . . . Feb. 19, ..
Cloth, Machine for shearing. Z. Carey, Oxford county, Maine. . Feb 20, ..
Clothes, dry scouring. Thomas L. Jenning, New York, . . . March 3, ..
Chimney and Fire-place. Obediah Dilano, Utica, New-York. . March 3, ..
Crank, Antifriction for steam Engines. Benjamin S. Oliver, Salem, Mass March 9, ..
Candles, machine for dipping. John Aborn, Nottingham, New-Jersey. March 20, ..
Cordage, improvement in the top sled for. Robert Graves, Boston, Mass. . . . . March 28, ..
Corn shelling Machine, improvement in the. Noah Lindsey, Catskill, New-York. . . . . March 28, ..
Churn, improvement in the. Adam Severt, Saratoga, New-York. . April 9, ..
Carding machine, improvement in the. Joshua Woodward, Franklin township, Ohio. . . . . May 2, ..
Cutting Clothes by rules. Allen Ward, Huntsville, Alabama. . . June 16, ..
Cock for drawing liquors, improvement in the. F. Delano, Philadelphia June 29, ..
Carriages, improvement in travelling. George H. Richards, New-London, Connecticut. . . . . Aug. 8, ..
Churning by dog power. George T. Reeve and Joseph Ketcham, Orange county New-York. . . . . Aug. 10, ..
Cocks for draining Liquors, etc. Jonathan Bliss, New-York. . . Sep. 24, ..
Cement for mortar & stucco. David Mead Randolph, Richmond, Va.. Sep. 25, ..
Candles, machinery used in making. Francis Fuller, New-York. . Sep 29, ..
Chimney's improvement in the stacks of. Frederick Crey, Baltimore. Oct. 8, ..
Cotton, machine for packing. John Cook, Fayetteville, N. C. . . Oct. 12, ..
Chains for cables, improvement in. I. Jennings, New-York. . . Oct. 29, ..
Clocks, improvement in. Joshua Burritt and W. P. Burdick, Ithaca, N. Y. Oct. 25, ..
Canals, roads, etc. machine for digging, John Humes. Richmond Va. . Nov. 10, ..
Chair, improvement in the rocking sofa. B. Fenney, Readsborough, Vt. Nov. 22, ..
Condensers, improvement in the steam. Thomas Skidmore, New-York. Dec 1, ..
Candles, machine for making, James Yard, Trenton, New-Jersey . Dec. 4, ..
Cotton Yarn, improvement in manufacturing. Erastus Wolcott, Newport, New-York. . . . . Dec. 11, ..
Corsetts, improvement in. Wm. James Cantelo, New-York, . . Dec. 31, ..
Cupola furnace, improvement in the. Henry Worall, New-York. . Dec. 31, ..
Clocks, improvement in the machinery of. —— Dean,

Distilling, improvement in the apparatus for. Frederick Kalisky, Philadelphia. . . . . Dec. 14, 1819.
Distilling, improvement in. Richard Wilcox, New-York. . April 20 1820.
Diving, mode of. William Brookfield Detroit, Michigan Territory. July 17, ..
Draw grinding machine. Thomas Dakin, Harpers-Ferry, Virginia. . July 28 ..
Drying cloth by steam. Rolan Duncanright, Medway, Massachusetts. Aug. 30 ..
Double speeder, improvement on No. 1. Jonathan Fisk, Medway, Mass. Dec. 7, ..
do. No. 2, do. do. Dec. 7, ..
do. No. 3, do. do. Dec 8, ..
do. No 4, do. do. Dec. 8, ..
do. No. 5, do. do. Dec. 8, ..
Double Speeder, combination of improvements on the. Jonathan Fisk, Medway, Mass. . . . . Dec. 9, ..
Dyewoods, machine for cutting. Elijah Converse, Dayton, Ohio. Jan. 10, 1821
Double Speeder for roping cotton. Paul Moody, Boston. . Jan. 19, ..
Distilling, improvement in. David Cutter. Butler county Ohio. . Feb. 20, ..
Dry, scouring clothes. Thomas L Jennings, New-York . . March 3, ..
Distilling spirits, improvement in. Robert Blaikie, New-York. . . April 27, ..
Duck or canvass sail, manufacturing. Josiah Chapman, Frankfort, Penn. July 9, ..
Distilling, improvement in the still for. Ballazar J. Kallenbach, Philadelphia. . . . . Aug. 6, ..
Dry docks, improvement in. Ralph Bulkley, New-York. . . Aug. 28, ..
Distilling, improvement in the apparatus for. Henry F. Fisher, Philadelphia. . . . . Sept. 12, ..
Dry Docks, improvement in floating. Edward Covenhoven, Greenburgh, New Jersey. . . . . Oct. 30, ..

F.

Earth in making roads, &c. apparatus for removing. I. L. Skinner and S. F. Hooker, Sackett's Harbour, N. Y. , , . March 23, 1820.
Eliptical log-wheels. Wm. B Copley, Whitestown, N. Y. . May 9, 1821
Elastic floor for propelling boats. Oliver Phelps, Lansingburgh, N. Y. Nov. 17, ..

F.

Fire places, improvement in. Thomas Mussey, New-London, Conn. March 6, ..
Fire Engine, domestic. Wm. Wadsworth, Hartford, Conn. . . March 16, ..
Fire hearth for ships. John Lamb, New-York . . . March 18, ..
Fire Engine, common. E. Bryant, New-London, Connecticutt, . March 28, ..
Family Pills. Daniel Coit, New York. . . . June 17, ..
Floating wharf for catching fish. Asael Bailey, Havre-de-Grace, Md. June 24, ..
Family spinner. John Brown, Providence, R. I . . . Jan. 23, 1821.
Furs, improvement in the mode of cleaning. Daniel Vail, Philadelphia. Feb. 20, ..
Fenders to stop Fires. Elisha Ruggles, Rochester, Mass. . Feb. 27, ..
Fire place and Chimney O. Delano, Utica, New-York . March 3, ..
Fire shield Ralph Bulkley, New-York. . . . March 29, ..
Faucet and spiggot, improvement in the block-tin. J. Bliss, Philadelphia. . . . . June 4, ..
Fire-irons, improvement in. Richard Whittingham, New York. . June 8, ..
Fire-places, improvement in. Wm. Schuneman, Cattskill, N. Y. . June 8, ..
Fount, improvement in the Liquor. John Douglass, N. Y. . June 25, ..
Fulling Cloth by steam. Ross Winans, Warwick, N Y. . . . June 26, ..
Fire grates, improvement in. Charles M. Graham, New-York. . Nov. 10, ..

G.

Geering for producing a rotary from an alternate motion. Peter Cooper, New-York. . . . . April 6, 1820.
Grain, machine for hulling. Maltby Fowler, New Haven Conn. . July 28, ..
Grammar, machine for teaching. John Lamb, Hillsdale, New-York. July 29, ..
Glass, opening the mould for casting. Deming Jarvis, Boston. Feb. 2, 1821.

H.

Head oar for steering. John Orbison, Piquia, Ohio . . . May 27, 1820,
Hydraulic Machine, balance lever. Daniel Fisk, Springfield, N. Y. July 18, ..
Horse wheel vertical. John M. Tilford, Rutherford county, Ten. Aug. 7, ..
Hides, mode of softening. Daniel Kranson, Reading, Penn. . . . Aug. 8, ..
Hats stiffened by a lathe. Henry Raymond, Baltimore. . . . Nov. 20, ..
Hydrometer, liquor. Elijah Southworth, New-York. . . Feb. 8, 1821
Horse mill improvement on the. William Sandford, New-York. . April 5, ..
Horse boat, improvement on. B. Langdon, Troy, N. Y. . . May 1, ..
Hose for Fire Engines. James Boyd, Boston, Mass . . May 30, ..
Hay rake, improvement in the. Thomas C. Hance, Palmyra, N. Y. June 25, ..
Hats, machine for putting up. Joseph Grant, Providence, R. I. . Aug. 11, ..
Horses, curing blindness in. Joseph Sater, Huntsville, N. C. Aug. 24, ..

I.

Ice preserver. Enoch Powers, Hartford, Conn. . . . Aug. 28, 1821

K.

Knees and timbers, mode of bending. John Orbison, Paquia, Ohio. May 27, 1820.
Knapping hats with American Rabbit Fur. David Evans, Alexandria, D. C. Oct. 2, ..
Keel and Keelson, improvement in the. James Wiltse, Fishkill, N. Y. May 4, 1821

L.

Lock, water. John Martin, Windham county, Conn. . . . Jan. 15, 1820
Locks, improvement in. Henry and Jacob Day, New-York. . April 4, ..
Letters, Shaded. George Bruce, New-York. . . . April 4, ..
Locks for small arms and cannon. Alexander Augustus Colvile, Little River, Maine. . . . . April 28, ..
Leather, machine for splitting. E. Howard and J. Butters, Boston. . May 3, ..
Locks, Latches, etc. improvement in. Harvey Durkee, assignee of J. Chittenden, Burlington, Vt . . . . Aug. 12, ..
Longitude, mode of finding the. James Henry, Maysville, Ken. Sept. 13, ..
Lathe for stiffening hats. Henry Raymond, Baltimore. . . Nov. 20, ..
Leather, machine for finishing. James Burr, Johnstown, Montgomery county, N. Y. . . . . Nov. 21, ..
Lamps for burning fat, etc. Josiah Warren, Ohio. . . . . Feb. 20, 1821
Land clearing machine. Thomas Oxley, Norfolk, Va. . . April 18, ..
Lamps, improvement in. James Dukes, New-York. . . . Aug. 15, ..
Locks and bolts, improvement in. T. Whaley, New-York. . . Nov. 2, ..
Loom, improvement in the. Edmund Warren. New-York. . Dec. 11. ..

M.

Mapping machine. James Deneale, Dumfries, Va. . . . Aug. 3, 1819
Medicine, improvement in, Lorenzo Dow, Hebron, Conn. . Nov. 24, 1820
Mills breasted tide, improvement in. Henry Allen, Fayetteville county, Tennessee. . . . . Dec. 30, ..
Mantle-pieces, cast iron. Isaac Beavs, Philadelphia. . . Feb. 21, 1821
Mercantile navigable House. Roger Haskell, Geneva, N. Y. . . July 7, ..
Mud machine, improvement in the. John Eveleth, Georgetown, D. C. Aug. 8, ..
Mill, improvement on Barker's. Charles Goddard, Sabine Hall, Va. Sep. 27, ..
Medicated steam bath, machine used in the. Ben. Marshall, New-York. Dec.

N.

Nails, machine for cutting and heading. Daniel Poole, Zanesville, Ohio. March 22, 1820.
do. do. do. do. Abiel Smith, do. do. March 22, ..
Nail machine, improvement on the. Thomas Morgan, N. J. . . Sept. 5, 1821
do. improvement on Perkins' and Reed's. George Thompson, Philedelphia. . . . . Sept. 15, ..

O.

Ovens for baking. Richard Wilcox, New-York. . . April 20, 1820.
Oil from cotton seed. George P. Digges, Albermarle, Va. . . Dec. 16, 1820
Oven door flue. Benjamin Simmons, jun. Bedford, Mass. . . Oct. 15, 1821.
Ornamenting cloth, mode of. J. C. Wood, Philadelphia, . Dec. 14, ..

Pump, suction. Levi Gray, Springfield, N Y. . . . . May, 9, 1820
Propelling boats by setting poles Robert Kenny, Augusta county, Va. June 7,
Pressing cotton, machine for. John Graham, China Grove, S. C. . June 17, ..
Ploughs. John W. Jenkins, Hudson, N. Y. . . . July 6, ..
Propelling boats. Jacob Coon and Benj. Hyde, Hartford, N. Y. . . July 11, ..
Power. Gaining by cog wheels, etc. Chas. Redheffer, Philadelphia. July 11, ..
Plough. John S. Wright, Greenwich, N Y. . . . . July 28, ..
do. R. and E. A Stevens, Hoboken, N. J. . . . . Sept. 20, ..
Power loom, improvement in the. Wm. Gilmour, Smithfield, R. I. . Oct. 28, ..
Pans, burning and baking. Wm. Burtis, New-York. . . . Nov 7, ..
Plough, improvement in the. Chas. Wood and Gilbert Brundage, Blooming Grove, N. Y. . . . . Nov. 9, ..
Pro pelling vessels, machine for. John James Giraud, Baltimore, . Nov. 22, ..
Pegs, making wooden. Thos Rowell, Hartford, Vt, . . Nov. 24. ..
Plough , improvement in the cast iron. John Stevens and John Fay, Rockham, Vt. . . . . Dec. 14, ..
ing, vessels, machine for. John James Giraud, Baltimore. Jan 3, 1821
Propellin a shifting share for. John Wood, Castleton, N. Y. . Feb 1, ..
Ploughing, de of bronzing. George John Newberry, N. Y. . Feb. 1, ..
Printing, ma ssels by wheels in cairns. B. S. Doxey, U. S. Navy. . Feb. 9, ..
Propelling ve Thatcher Blake Turner, Maine. . . . Feb. 21, ..
Press, lever. corn, machine for. A. C. Flushing, Queen's county, N. Y. Mar. 20, ..
Planting Indian A. O. Stansbury, New-York. . . . Mar. 21, ..
Press, spiral leve rovement in the. A. O Stansbury, N. Y. . April 7, ..
Printing press, imp nt in cast iron. Robt. L. and E. A. Stevens, Hoboken, New York. . . . . April 23. ..
Ploughs, improveme t of the edge of the share of. do. do. do. April 23, ..
Ploughs, gardening par ment in the. Samuel Rust, New-York. . May 11, ..
Printing press, improve. rpenter's. R Wellford, and Jos. H. Deas, Philad. May 14, ..
anes, i nprovement in C x. Tolson, George-Town, D.C. . June 2, ..
Pulv ig wood, etc Al cast iron. Geo. G. Ring, Redhook, N. Y. June 3, ..
Plough, improvement in the homas and Wm Bryan, New-York. . June 29,
Printing and staining silks st iron. O. Seely, Pottstown, Penn. Aug. 27,
Plough, improvement in the ca tron. Wm. Falconer, New-York.
Plough, improvement in the cas live. Phelps, and G. Moorehouse, Lan-
Plough, improvement in the. C . . . . Nov. 17, ..
Ploughing, swegburgh, New-York. n. L David Hitchcock, N. Y. . Dec. 29, ..
Plo gh, improvement in the cast iro

Q.

Quills, machine for winding. France. Jones, New-York. . . May 23, 1821

R.

Rice, machine for cleaning. Richard Fr ench, Morrisville, Penn. . Oct. 13, 1820
Readies, machine for making ropes, Ro bert Gra es, Boston. . Nov. 22, ..
Readies, drawing yarn for. d tto. ditto. . . . Nov. 22, ..
Ropes machine for making and laying. di tto. ditto. . . Nov. 22, ..
do. machine for equalizing the strain. dit to. ditto. . . Nov. 22, ..
Ramrods, machine for making. Charles G . Barstow, Exeter, N. H. . Dec. 21, ..
Razor straps, paste for. Elisha M. Pomero y, New-Haven, Conn. . Jan. 24, 1821
Rifle, repeating. Isaiah Jennings, New-Yo rk. . . . Sep. 22, ..
Razor strops, improvement in. John M. F ors, Baltimore. . . Oct. 2, ..
Rice, machine for cleaning. Lazarus Ruggl es, New-York. . . . Oct. 12. ..
Reticules and Pocket-books, improvement i . Wm. Winning, New-York Nov. 7, ..
Reeds, improvement in metallic. Peter F. B uben, Patterson, N.J. . Nov. 15, ..
Railways, improvement in. Charles William , Boston. . . Nov. 16, ..
Rice, machine for hulling and shelling. Elih a Spencer, New-Haven. Dec. 5, ..

S.

Stove for cooking. Nathan Winslow, Portland Maine. . . May 3, 1820
Straw bonnets, pressing. Eleazer Smith. Wal pole, Mass. . July 15, ..
Spinning wheel, linen. Benj. Simmons, Paris, N. Y. . . July 20, ..
Smut machine. James Gillaspie, Middleton, Conn. . . Aug. 23, ..
Stove, open circular. Richard Berrian and Fr s. Class, N. Y. . Aug. 30, ..
Shovel plough. John Balthorpe, Loudon county Va. . . Sept. 20, ..
Sewer, mouth and stench trap. A. Ramsey, Philadelphia. . Oct. 3, ..
Smut machine. Daniel Pease, junior, Wingfield, N. Y. . Oct. 31, ..
Swinging frame for shoeing horses. Joseph Kirk, Weston, Vt. . Nov. 8 ..
Saddles, improvement in. Elihu Walker Aurora, N. Y. . Nov. 16, ..
Sleighs, machinery for. Jacob Fisher, Kennebeck, Maine. . Dec. 30, ..

Steam, impt. in the application of. Aaron Niles Sabin, Frankfort, Ken. Dec. 30, 1820
Spinning cotton and wool, machine for. John Brown, Providence, R. I. Jan. 23, 1821
Steam engine, improvement in the vibratory. P. Davis, York, Penn. Feb. 17, ..
Shoes and Boots cutting by rule. Simeon Hart Monkton, Vt. - March 3, ..
Steam engines, improvement in the. Minus Ward, Columbia, S. C. March 23, ..
Sifting lime, etc. machine for. E. Blanc and B. H. B. Latrobe, N. Orleans April 14, ..
Saddles, improvement in. Peter Dixon, Philadelphia. - - April 25, ..
Smutting or huiling machine. Stephen Cooke, Marcellus; N. Y - Aug. 7, ..
Steam wheel, improvement in the. Amos Thayor, junior, Albany, N. Y. Aug. 8, ..
Sweeping chimneys John W. Moore, Washington, D. C. - - Aug. 8, ..
Smut machine, improvement in the. F. Woodward, Butternutts, N. Y Aug. 10, ..
Sail cloth, improvement in manufacturing. Jas. Richards, Patterson, N. J. Aug. 10, ..
Spinner, vertical. John Brown, Providence, R. I. - - - Aug. 11, ..
Saw mill, improvement in. John Bruff, Somersett county, Md. - Aug. 16, ..
Saddles improvement in. John G. Morris, New-York - - Aug. 28, ..
Spinning wool, etc impt. in the machine for. Wm Bushnell and J. Altoffer, Harrisburgh, Va. - - - - - - Aug. 30, ..
Sector, improvement in the plane sliding. G. H. Thompson, Boston Dec. 4; ..
Setting saw teeth, impt. in. Webb Hart, Camden, S. C. - Dec. 7, ..

T.

Towing boats and vessels. Samuel Howard, Savannah, Geo. - May 24, 1820
Thrashing machine. Ezra Goodel, Phelps, Ontaria co. New-York - June 6, ..
Turning machine. A. Woolworth, Waterbury, Conn. - - June 15, ..
Teeth, composition for cleaning. Levi S. Parmly, New-York - June 17, ..
Thrashing machine. Asha Shattuck, Pepperhill, Mass. - - June 23, ..
Tobacco Reel, improvement in the. S. and E. Hardy, Kennebeck, Maine, Dec. 30, ..
Tireing carriage wheels. Russel Hunt, 2d, Litchfield, Conn. March 20, 1821
Thrashing machine. James Gregg, Londonderry, N. H. - - March 30, ..
Tilt hammer, improvement in the. Jacob Eversol, Botecourt co. Va. May 3, ..
Threads, mode of packing. Reuben Langdon Hartford, Conn. - June 20, ..
Trucks, mode of cutting. Robert Rose, Washington, D. C. - August 6, ..
Teazling and knapping cloth. Aaron Foster, Whitestown, N. Y. - August 24, ..
Thrashing machine, improvement in. Benjamin Cummins, Brookline. Sept. 1, ..
Thrashing and Rice cleaning machine. Michael Morrison, Waterbury, N. H. Sept 15, ..
Thrashing and Winnowing machine, improvement in the. Seth Ballon, Livermore, Maine - - - - - - Dec. 12, ..
Trunnels for ships, improvement in. Thos. Rowell, Hartford Vt. - Dec. 13, ..

W.

Watch chains, machine for making. Samuel Keplinger, Baltimore - May 4, 1820
Water and Coal, machine for drawing. Edmund C. Dauley, Fredonia, Inda. May 12, ..
White-wash brush. Elijah S. Curtis, Charleston, Mass. - - June 2, ..
Watch chains, machine for making. John Hatch, Baltimore. - - June 5, ..
Water wheel. Elisha Hall, Baltimore - - - - - July 5, ..
Wheel, spiral helm. Robert P. Cunningham, Pomfret, Conn. - - Aug 3, ..
Washing machine. Benjamin Cox, Hadley, Massachusetts - - Aug. 15, ..
Wire screens for cleaning Rice. N. and D. Sellers, Philadelphia. - Aug. 16, ..
Weighing machines. Eli Wadsworth, Hartford, Conn. - - Sep. 7, ..
Wheel, tide. N. Gates, and Alexander Maxwell, New-York - Sept 13, ..
Water wheel. James Price, New-York - - - - Oct. 2, ..
do. David Beauchamp, Elizabethtown, Va. - - Oct 10 ..
Windmills. improvement in. P. Ettienne, New-York. - - Oct. 14, ..
Winnowing machine, Josiah Brown, New-London, Conn. - Nov. 29, ..
Weaving, improvement in the harness for. M. Chandler and E. Brown, Cazenovia, New-York - - - - - Jan. 26, 1821
Water wheel, horizontal pedal. John James Giraud, Baltimore - Feb. 5, ..
Wind and water wheel, improvement in the. Wm. Gallup, Norwalk, Ohio. Mar. 29, ..
Warping and weaving cotton goods. James Morgan, Baltimore - Apl. 6, ..
Winnowing machine. Daniel Donohoe, New-York - - Apl. 16 ..
Wheel, head linen spinning. J. S. Stewart, Springfield, N. Y. - - Apl 19, ..
Water wheel, oblique. Ralph Bulkley, New-York - - - Aug. 7, ..
Whale's blubber, machine for mincing. Benjamin Taber, Fairhaven, Mass. Aug. 11, ..
Water, machine for raising, by weight. J. Altoffer and Wm Bushnell, Harrisburgh, Va. - - - - - - - Aug. 30, ..
Water wheel, right and left. Ralph Bulklege, New-York - - Oct. 8, ..
Washing machine, improvement in the. James Barron, Norfolk, Va. - Dec. 7, ..
Water, machine for raising. N. N. Dettrehan, Charles Parish, La. - Dec. 13, ..
Water wheel, improvement in the horizontal. H. Howard, Wooster, Ohio. Dec. 26 ..

SUPPLEMENT

TO THE

LIST OF PATENTS CONTINUED.

[FROM JANUARY 1822, TO APRIL 1823.]

A

Anti-dysenteric pills. J. C. M. Brockway, Lyme, Conn. - March 13, 1822.

B

1822.

Buds, Blossoms, &c. (mode of delaying,) Robert Moore, Rowan Co. N. C. March 16, --
Bending timber for sleighs, &c. E. Green and M. Blackslee, Litchfield, Conn. " 20, --
Bank notes, making George Murray, Philadelphia - March 23, --
Blubber, machine for cutting up whale's. Wm. Ball, New York - April 25, --
Bricks, machine for making. Benjamin Rolfe, During, N. Hampshire April 30, --
Bricks and tile, ma. for making. James C. Stubbs & James Bonner, Cincinnati, Ohio - - - - - - - May 10, --
Blocks and wedges, impt. in making. John Thomas, Washington, D. C. May 17, --
Bark mill, impt. in the. James Elliott, Philadelphia - - May 24, --
Bank notes, mode of making. James Ph. Puglia, Philadelphia August 13, --
Bridle for stopping horses. Peter Laporte, Richmond, Virginia August 15, --
Bleaching unrotted flax. Wm. Cumberland, New York - August 27, --
Beadsteads, impt. in. Peregrine Williamson, Baltimore - October 17, --
Bricks, impt. in the machine for moulding. H. Maine, Point Coupee, Lou. Novr. 23, --
Boots and shoes, impt. in making. A. Buffum, Smithfield, R. I. December 28, --
Bricks, mode of pressing. S. Briggs, Salem, Massachusetts January 11, 1823.
Boats, impt. in the towing &c. Edward S. Townsend, Palmyra, Ontario county, New York - - - - - March 13, -

C

Chaff, machine for breaking &c. John Bolton, Warren, N. York January 28, 1822.
Chairs, impt. in nursing. Andrew Woods, Charlestown, Jeff. co. Va. March 13, --
Clock cases, impt. in. Joseph Ives, Bristol, Vermont - - March 21, --
Cock, impt. in the metallic screw. Jeremiah Garey, Baltimore - April 23, --
Cloverseed, ma for getting out. William Loomis, Ashford, Conn. April 27, --
Cock, stop. John Morris, New Haven, Connecticut - - May 15, --
Cordage, ma. for pressing the tar out of. Thomas Barnitt, Philadelphia May 20, --
Churn, impt. in the. Benjamin Hayden, Jr. Trenton, New Jersey June 15, --
Churn, impt. in the. Eleazer Brown Ansel Keith, Windfield, N. York June 19, --
Cider, mode of fermenting apple. Wm. Elder, New Brunswick, N. J. August 21, --
Cutting box, impt. in the. Wm. Willis, Lynchburgh, Virginia August 24, --
Coffee, machine for hulling. Nathan Read, Belfast, Maine - September 10, --
Churn, impt. in the. Samuel Clark, Morris County, New Jersey October 4, --
Coopers work, machinery for. Horace Wright, Onondaga, New York October 23, --
Cloth, impt. in the machine for shearing. Ezekiah Heald, Norridgwork, Maine, - - - - - - - - December 4, --
Corn, impt. in the mode of grinding - John Bicknell, Buckfield, Me. December 11, --
Casks, impt. in the mode of making. U. Emmons, Green co. N. Y. January 8, 1823.
Clover seed, machine for cleaning. Nathan Mills and Isaac Rogers, Bath, New Hampshire - - - - - January 14, --
Cotton yarn, ma. for spinning. Elisha Fuller, Attleborough, Mass. February 6, --
Carpeting, impt. in making ingrain. William A Prince, New York February 12, --
Corn, machine for shelling. Samuel Spooner, Petersham, Mass. February 27, --

Cotton, impt. in the machine for cleaning. W. Hopkins, Plainfield, Conn. March 6, 1823.
Cotton, do· do. George T. Saddler, Lawrence co. Ala. :: 10, --
Cradle, improvement on the grain. Isaac Babcock, Rensselaer co. N. Y. March 24, --

D

Drawers, impt. in making. Henry Brewer, New York - February 28, 1822.
Distilling, impt in. Philip Greiner, Brandywine, Township, Penn. April 17, --
Dough, machine for making Josiah S. Fisher and Sylvester W. Talbot, Norfolk, Massachusetts - - - - - April 25, --
Drill, Cotton thinner and Plough, Wm. Willis, Edgefield District, S. C. May 17, --
Distilling, impt. in the apparatus for: Uriah Swetland, Kingston, Penn. Nov. 18, --
Distilling by steam, impt. in: Elias Gilhausen, Halifax township, P. January 14, 1823.
Double Speeder, improvement in the: Az. Arnold, North Providence R. I. :: 21,
Distilling, improvement in: Malcolm M'Donald, Fayette, Penn. February 19,

E

Engraving, making metallic plates for: David H. Mason, Philadelphia May 17, 1822.
Elevators, for raising water. Social Rolph, Albany, New York November 16, --
Engine, impt. in the rotary Steam: Dudley L. Farnam, New York February 19, 1823.
Engine, impt. in the Steam: Amos Thayer junr. New York March 6, --

F

Fire Engine assistant, or life pole: Wm. W. Van Loan, Catskill, N. Y. February 2, 1822.
Fire places, improvement in: Joseph Maggini, Baltimore February 4, --
Fire -- - -- Stephen Spalding, Colchester, Conn. April 11, --
Fire Engine, impt. in the: Solomon Lockwood and William Lovland, Little Falls, New York - - - - - April 16, --
Fire places, mantle and fender for: Elijah Skinner, Sandwich, N. Haven April 19, --
Fire Engines, improvement in: Ebenezer Higgins, Saratoga, N. York April 27, --
Fire places and stoves, impt. in: Lemuel Hitchcock, Weathersfield, Vt. May 4, --
Flax, machine for breaking & swingling: S. Davison, Romulus township, N. Y. -- 17, --
Flax and hemp machine: Henry Burden, Albany, New York June 15, --
Do. -- -- William Cumberland, New York - July 9, --
Do. -- -- James Macdonald, New York - - August 31, --
Forge, hollow fire: Samuel Collins. Springfield, Massachusetts September 11, --
Flax and hemp dressing machine: Naman Goodsell, Paris, N. Y. September 19, --
Floating vessels, machine for: John Denny, Queen Ann co. Maryland October 3, --
Fire arms, improvement in: Albern Holcomb, Litchfield, New York October 31, --
Flumes for mills, improvement in the: A. Messer, Providence, R. I. November 19 --
Flax and hemp, impt. in the ma. for breaking: Wm. Cumberland, N. Y. -- 29, --
Flax and hemp, machine for dressing: James Macdonald, New York January 18 1823.
Do. -- -- -- Joseph Hines & Wm. Bain, Columbus, O. Feb. 3 --
Fire proof furnace impt. in the: John Miller, (mason) Northampton County, Pennsylvania - - - - March 13, --
Flax and hemp, ma. for breaking. Naman Goodsell, Clinton, Oneida co. N. Y. do. 21, --

G

Gun powder, impt. in making: Joseph M. Merrow and Robert M. Kee junior, East Hartford, Connecticut - - - April 19, 1822.
Glass lights for ships &c. Joshua Oakes, Boston - - May 11, --
Ginning cotton ma. for: S. Pennoyer, Cross-river, West Chester, N Y July 24, --
Gun powder, ma. for granulating: Wm. H. Richardson, Baltimore August 3, --
Glass buttons, furnace for: Geo. W. Robison, Attleborough, Mass. August 19, --
Do. do. finishing: Spencer Richards, do. do. do. 19, --
Grid-irons, impt. in: Daniel Ball, Ballstown Spa, N. York do. 29, --
Glue, impt. in making: John Henry Mark, Philadelphia October 3, --
Gas, making combustible: William Gamet, Rome, New York December 27, 1822.
Grinding, machine for. John Bolton, Warren, New York January 9, 1823.
Grass seeds, machine for cleaning: Howland Child, Canton, Maine January 11, --
Girth, impt. in the elastic spring: Peter Harry, Harrisonburgh, Vir. February 1, --

H

Horse shoes, impt. in: J. B. Brown and J. Farmer, Boston - March 11, 1822.
Hair, mode of taking from the skins of the Nutria: Samuel Brooks, N Y April 4, --
Horse hay rake, impt. in the: Moses Pennock, E. Marlbor'o, Penn. June 26, --

Hulling machine for grass-seeds, &c. Thatcher Blake, Paris, Maine July 12, 1822.
Hydrometer, impt. in the: J. C. Tucker and E. Dwelle, Boston December 23, --
Hulling grain, machine for: John Bolton, Warren, New York January 9, 1823.
Hats and bonnets, weaving straw for: Lucy Burnap, Merrimack, N H Feb. 15, --
Hames, impt. in the chaise: Herrick Aiken, Brighton, Mass. March 12, --

I. K.

Iron and steel, impt. in making: H. G. Spafford, Albany, N Y October 30, 1822.
Kiln for drying malt by steam: David St. Leger, Williamson co. Tenn. August 30, 1822.
Kiln for drying grain: R. Andrews, Fleming county, Kentucky November 7, --
Knife for splitting leather, impt. in the: H. Aiken, Brighton, Mass. March 12, 1823.

L

Life Pole for fire engines: William W. Van Loan, Catskill, N Y February 2, 1822.
Lamps, impt. in the tubes for: Deming Jarvis, Cambridge, Mass. February 2, --
Looms, domestic: Benjamin Maltby, New York - - April 13, --
Loom, self-governing: Edmund Warren, New York - - May 1, --
Lever, angle: James Barron, Norfolk, Virginia - - May 14, --
Locks and latches, improvement in: Joel F Thayer, Boston - May 18, --
Leather, impt. in the ma. for splitting: Joshua Butters, Boston - May 31, --
Lever, improvement in the: Richard Sealy, New York - - July 1, --
Locks for canals: George Bender, New York - - - August 26, --
Locks, impt. in the sliding door: Ebenezer Leman Junior, Boston November 28, --
Lamps, improvement in. C. Cornelius, Philadelphia - December 28, --
Locks, improvement in door. Nathan Read, Belfast, Maine - March 31, 1823.

M

Mowing machine. Jeremiah Baily, Chester county, Pennsylvania February 13, 1822.
Mockasons and socks, impt. in: Wm. Brower, Ransselear co. N. York March 6, --
Mills, impt. in grist: John and David Hascall, Likay, New York - March 9, --
Mills, impt. in wind, water and tide. Peter Quidor, junior, New York March 21, --
Mapping Instrument; Samuel Dew, Romney P. O. Virginia - - April 13, --
Mills, improvement in; Robert Burns, Mifflin county, Pennsylvania June 20, --
Marine rail way, improvement in the; John Rogers, Washington, D. C. June 24, --
Marble, machine for sawing: Eben W. Judd, Middleburgh, Vermont August 14, --
Mill, floating horizontal wheel'd: George H D. Gray, Southampton, Va. Sept. 25, --
Medicine, mode of preparing: Samuel Thompson, Boston - January 28, 1822.

N. O.

Nails, mode of securing the heads of: William Mellus, Dorchester, Ms. August 3, 1822.
Nails, machine for cutting and heading: Lemuel Bolles, N. York September 19, --
Navigation, impt. in machinery for: Joseph Godley, Alexandria, N J February 22, 1823.
Oil, mode of expressing: John Hallock, Little Egg Harbour, N. J. January 22, 1822.
Oil, making castor: Timothy Pharo, Tuckerton, New Jersey February 5, --

P

Pick-axe, impt. in the: Luke Baker, Putney, Windham co Vt. January 15, 1822.
Plough, improvement in the: David Peacock, Northampton, New York Jan. 21, --
Plough, -- -- William G. Shuart, Orange co. N. York February 5 --
Pantaloons and waistcoats, making: Charles Herwick, New York February 8, --
Plough, cast iron: Josiah Dutcher, Durham, New York February 12, --
Plough, -- George W. Hawkins and Horace Emery, Windsor, Vt. Feb. 16, --
Pressing machine: Philip Freeman, Perth Amboy, New Jersey February 20, --
Press frame, standing: Benjamin F. Brown, New York March 2, --
Plough for hoeing, &c. Col. George Gill and George Gill (B. S.) Chester District, South Carolina - - - - March 25, --
Punching holes, machine for: John Sarchet, Philadelphia - - April 2, --
Printing Press, improvement in the: Peter Smith, New York - April 6, --
Pails, machine for making: Reuben Hyde, Winchester, Massachusetts April 19, --
Ploughs. improvement in: John Gibson, Montgomery, co. New York May 2, --
Paper, machine for making: John Ames, Springfield, Massachusetts May 14, --
Percussion Gun, improvement in the: Joshua Shaw, Philadelphia June 19, --
Ploughshare, impt. in the: Baily Carpenter, Somerstown, New Jersey July 1, --
Pipes, leaden, for acqueducts; Richard Ward, Waterbury, Conn. July 5, --
Plough, improvement in the; Abijah Lee, West Chester, New York July 22, --

Pessaries, improvement in ; Luke Baker, New York September 12, 1822.
Plough, improvement in the ; Joseph Woolley, Troy, New York September 14, --
Pianos. detached sounding board for ; James Stewart, Boston November 14, --
Plough, improvement in the; Peter J Clute, Schenectady, N. Y. November 16, --
Planking vessels, improvement in ; J. Thomas, Washington, D. C. December 2, --
Plough, improvement in the ; Jacob Schoonmaker and Jacob Dolson, the former of Ulster and the latter of Duchess co. New York December 7, --
Plough for covering corn, &c. impt. in the ; T. Williams, Pittsylvania, Va. Dec. 19, --
Plough, improvement in the ; Ryland Rodes, Albermarle county, Va. February 25, 1823.
Printing, improvement in the art of : William M. Dodge, New York March 6, --

Q. R.

Quercitron bark, mode of preparing. James Elliott, Philadelphia August 20, 1822.
Rotary steam engine. J. Lansing Jr. and A. Thayer Jr. Albany, N Y. January 19, --
Razor strops, improvement in. Jacob Houck, New Market, Maryland Jan 24, --
Railing, ornamenting the tops of. Paulus Hedl, New York February 21, --
Razor strops, composition for. David Ritter New Haven, Conn. March 9, --
Rollers, mode of covering. Everet Williams, Stratford, N. Hampshire April 13, --
Rigging, attaching the standing. Wm. H. Allen (killed by the pirates,) United States' Navy, Albany, New York July 10, --
Revolving lever for boats. Lewis Marchand, Blakely, Alabama July 10, --
Rigging vessels, called centre reeving. Samuel Adams Wells, Boston July 24, --
Rigging called lever truss and sling, do do do July 24, --

S

Scythes, improvement in. Ephraim Kimball, jun. Fitchbury, Mass. January 17, 1822.
Steam engine, rotary John Lansing, jun. and A. Thayer Albany, N. Y. Jan. 19, --
Straw cutting machine. Jonathan S Eastman, Baltimore January 29, --
Shoes, socks, &c. mode of making. S. Norris and J. C. Wood, Philad January 30, --
Scythes, mode of finishing. Charles M'Namara, Northbridge, Mass. January 30, --
Spring, sofa, bed, couch, settee, &c. Sh. Blair, New Haven, Conn. February 2, --
Steam engine, improvement in the. Thomas Hatton, Philadelphia February 28, --
Stove, cooking. Philologus Holley, Red Hook, New York March 1, --
Saddle-trees, machine for making. Reuben Fairchild and Eben Fairchild, Fairfield, Connecticut - - - - - March 6, --
Stove, improvement in the cooking. John J. Pierce, Greenfield, Mass. March 11, --
Spinning woollen yarn, impt in. John Sharp, Whitestown, N. York March 13, --
Spring shuttle spindle, impt. in the, Samuel Cranston, Cumberland, R. I. March 20, --
Stove pipe, improvement in making, Wm. W. Weaver, Philadelphia April 16, --
Scraper or team shovel, Elisha Case, Canton, Connecticut April 23, --
Saw-mill, improvement in the. Thomas White, Chester district, S. C. April 27, --
Smut machine, &c. impt. in the. Jedediah Fallman, Oneida co. N. York May 8, --
Stove, improvement in the. James Barron, Norfolk, Virginia May 14, --
Stove, -- -- B. Seymour and A. C. Bettis, Utica, N. Y. May 25, --
Splitting skins and pelts. William Bent, Philadelphia June 17, --
Stove for burning Lehigh coal. Robert M'Minn, Philadelphia June 24, --
Spindle (trostle) for cotton. Charles Lewis and George Taylor, Poughkeepsie, New York - - - - - - June 26, --
Steam expander. David M'Allister, Bookfield, Vermont July 15, --
Saddle-trees, improvement in. Anthony Null, Philadelphia August 29, --
Sugar, Machine for breaking. James Mitchell, Philadelphia September 11, --
Sleigh shoes, impt. in. Seneca Pettee, Salisbury, Connecticut October 1, --
Seat, elastic spring carriage. Jona. Nichols, Providence, Rhode Island October 2, --
Stills, improvement in. Baltazar J. Kallenback, Philadelphia October 17, --
Stoves for burning Lehigh coal, &c. Philip S. Mingle, Philadelphia October 24, --
Saws, instrument for setting Joseph Beach, Middletown Conn. October 28, --
Steel, improvement in the art of making cast and wrought. Horatia G. Spafford, Albany, New York - - - - October 30, --
Stoves, improvement in the foot. Julia Plantou, Philadelphia November 4, --
Saw-setter, improvement in the. David C. Jordan, New York December 2, --
Salt, impt. in the mode of making. Cadwallader D. Colden, N. York December 14, --
Saw-set, improvement in the. Rufus Grandy, New York December 21, --
Shirgles, machine for making, Willard Earl, Boston December 28, --
Stills, worms for. Chester Cook, Paris, New York January 11, 1823.
Stone, machine for sawing and smoothing. Nat. Holmes, Barnstable, Mass Jan. 24, --
Scythes, mode of finishing. Charles M'Namara, North Bridge, Mass. January 31, --

Saddle-tree, improvement in the. Peter Harry, Harrisonburgh, Va. February 1, 1822.
Stoves, improvement in. John Tasker, Philadelphia February 3, --
Seeds, improvement in cleaning. David S. Buck, Hurly, New York February 10, --
Steam boat, canal. Robert Huginin, Albany, New York - - March 1, --

T

Transferring impressions. A. C. Baker and MacFund Biddle, Albany, N. Y. Feb. 7, 1822.
Telegraph, domestic. Daniel Pierson, Boston - - - March 2, --
Truss, improvement on Hull's. Bela Tarr, Norwich, New York March 9, --
Teeth, improvement in artificial. Charles M. Graham, New York March 9, --
Thrashing and winnowing machine Alvin Savage, Wheatland, N Y. March 28, --
Thrashing machine B. Tyler, J. Tyler and J. B. Andrews, Windsor, Vt. April 23, --
Thrashing machine, Reynolds Gilman, New York - - April 29, --
Tayloring, improvement in. Isaiah J. Hendryx, Bennington, Vermont May 29, --
Thrashing &c Machine for. Major Mc'Donald, Topsham, Maine July 10, --
Do. do. Thacher Blake, Paris, Maine - July 12, --
Turpentine, distilling. Frederick S. Cozzens, New York - July 27, --
Thrashing machine. Joseph Pope, Hallowell, Maine - - July 30, --
Truss shears, for cutting iron. Encs Baldwin, New York - - July 31, --
Thrashing machine, impt. in the. Timothy Howe, Turner, Maine December 3, --
Tools, art of making edge. Horatio S. Gates, Troy, New York December 19, --
Thrashing machine. Gideon Reynolds, New York - - January 21, 1823.
Tanning, improvement in. Leonard Jacobs, Missouri - - February 10, --
Thrashing, improvement in. John Carll, New York, - - February 12, --
Truss, improvement on the. Amos G. Hull, New York February 27, --
Thrashing grain &c. machine for. Naman Goodsell, Clinton, Oneida County, New York. - - - - - - - - - March 21, --

V. W.

Venereal disease, preventing the. John Prentis, New London March 27, 1822.
Vaccinnation, improvement in. James Smith, Baltimore - July 10, --
Ventilating Vessels. Charles W. Skinner, Norfolk, Virginia - August 23, --
Vessels, mode of setting up shrouds of. Robert Rogers, Dover, N. H. February 6, 1823.
Washing machine, improvement in the. Pascal Cady, Brooklyn, Conn. January 17, 1822.
Wire, impt. in drawing card. Russel Prouty, Spencer, Massachusetts January 19, --
Window shutters and blinds, fastening. Bernice West and Philander Soper, Rome, New York - - - - - January 31, --
Wheel, polygonal, chain, paddle, &c. Tim Elmer and Azel Pierson, Bridgetown, New Jersey - - - - - - January 31, --
Waistcoats, pantaloons, etc making. Charles Herwick, New York February 8, --
Window curtains, improvement in. Henry Andrew, New York March 6, --
Winnowing machine. Harry Beadle, Wallingford, Connecticut March 30, --
Washing ma and for grinding. James Justin, Pittsburgh, Penn. April 19, --
Waterwheel, improvement in the tide. Robert Seal, Delhi, N. Y. May 31, --
Washing machine, improvement in the. Francis Goucher, Philadelphia June 15, --
Wind mills, improvement in. William Phoebus, New York June 24, --
Wheels for carriages. John Whitaker, Dingman's Ferry, Pennsylvania June 24, --
Wool picker, improvement in the. Beriah Brown, Exeter, R. I. September 2, --
Window sashes, self-balancing. Francis Follot, Petersburg, Virginia October 15, --
Washing machine, improvement in the. David Watson, Fayette, Me. October 15, --
Water, elevators for raising. Social Rolph, Albany, New York November 16, --
Waterwheel, improvement in the inclined horse and water. Lee Wheeler and Timothy Powell, Coxackie, New York - - December 6, --
Windmills, impt. in the machinery of. John Gue, Waterford, N. Y. December 31, --
Waterwheel, impt. in the vertical. John Maze, Green Brier co. Va. January 10, 1823.
Wind mill, improvement in the. Jesse Mollineux, North Hampstead, N. Y. Jan. 24, --
Water wheel, improvement in the. Adolphus Allen, Troy, Penn. February 8, --
Water, impt. in raising. Littlebury H. Mosby, Powhattan Co. Va. February 15, --
Wheat, ma. for cleaning smut from. Daniel Pease, jr. Windfield, N. Y. Feb. 27, --

SUPPLEMENT

TO THE

LIST OF BOOKS, MAPS, CHARTS &c.

DEPOSITED IN THE DEPARTMENT OF STATE, FOR SECURING COPY-RIGHTS.

[FROM JANUARY 1822, TO APRIL 1823.]

The critical pronouncing Spelling Book, by Hezekiah Burhans.	December 25,	1821.
Unitarianism, philosophically and theologically examined etc.; by Anthony Kohlmann.	January 4,	1822.
A tabular view of the modern nomenclature and system of chemistry, by William James.	January 4,	"
Monitor o' Guia de los Tranc, etc.— by J. Desmore, E. Bliss, & E. White.	Jan. 10,	"
The Templars chart, or hieroglyphick monitor, by Jeremiah L. Cross.	January 12,	"
Elementary practices for singing, by T. Phlips.	January 12,	"
Letters on Unitarianism; by George Sherman.	January 17,	"
Sketches of the eclesiastical history of the state of Maine; J. Greenleaf.	Jan. 19,	"
The new American practical Navigator; by Edmund M. Blunt	January 21,	"
An Elementary treatise on astronomy; by Kimber and Sharpless	January 26,	"
A collection of cases overruled, etc. etc. by Simon Greenleaf	February 1,	"
The Justice of the Peace; by Joseph Baccus	February 3,	"
Dabole's schoolmasters assistant; by Samuel Green	February 12,	"
American Museum and Repository of Arts and Sciences: by S. A. Elliot.	Feb. 11,	"
New chart of the north eastern coast of North America; by E. Blunt.	Feb. 18	"
The moral instructor and guide to virtue and happiness; by Jesse Torrey.	Feb. 20,	"
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Grammar simplified; by Jeremiah Greenleaf	February 23,	"
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A Key to the English grammar; by Sylvanus Lynde	February 24,	"
La senda de las luces masonicas sit lux et lux fuit; by Joseph Cerneau.	February 26,	"
The child's first book; by Goold Brown	March 3,	"
French Dictionary; by William B. Fowle	March 20,	"
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Reports of cases argued and determined in the Supreme judicial court of the State of Maine; by Simeon Greenleaf	May 11,	"
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Anecdotes of the Revolutionary War in America; by Alexander Gaiden.	May 11,	"
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The L.... family at Washington, or a winter at the Metropolis do. do.	May 24,	"
The National Calendar, and annals of the U. S. for 1223 vol. 3. P. Force.	May 24,	"
Laws of the U. S. from 4th March 1815, to do. 1821; by Davis and Force	May 24,	"
Pharmacologia; by T. A. R. Lockwood,	May 25,	"
The primary instructor and improved spelling book; by Jasper Hazen	May 29,	"

Odofriede, the Outcast; by Samuel B. H. Judah - - - June 15, 1822.
The life of William Penn; by Refine Weeks - - June 17, "
Reports of cases, in the Supreme Court of appeals in Va. by W. Mumford, June 22, "
Elements of Natural or Experimental philosophy; by Tiberius Cavallo, F. R. S. etc. first American edition; by F. X. Brosius - June 22, "
A manuel of French phrases and French conversations; by Richardson and Lord - - - - - - - - June 26, "
Hutton's course of mathematics; by George Long - - - July 2, "
Head of Henry Clay, deposited by B. O. Tyler, Washington - July 6, "
Hymns for conference meetings and private devotion; by H. Malcolm July 8, "
Elements of physiology; by Thomas Dobson - - - - July 16, "
A system of anatomy for the use of students of medicine; by Thomas Dobson and Son - - - - - - - - July 16, "
An elementary treatise on Minerology and geology, designed for the use of pupils; by Parker Cleveland - - - - July 20, "
A digest of cases adjudged in the circuit court of the United States for the third circuit and in the courts of Penn. by Philip H. Nicklin July 25 "
A new chart of the coast of North America, from cape Hateras to Egg River, including Chesapeak Bay; by Cushing, Appleton & S. Lambert July 26, "
Poems by William Tappan; by James Crissey July 26,
Longworth's American Almanack; by Thomas Longworth August 2, "
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An enquiry concerning the nature, end, and practibility of a course of philosophical education; by Paul Brown August 8, "
The American Directory and traveller's companion; by Lorenzo Hall August 23, "
A disquisition on faith; by Paul Brown August 30, "
Illustrations of the Holy Scriptures in three parts, by the Rev. George Paxton, by James E. Moore September 7, "
The Boston Handel and Hayden Society collection of church music, being a selection of the most approved psalms and Hymn tunes; by Joseph Lewis September 7, "
The missionary arithmetic; by William R. Weeks; September 7, "
A map of North America; by H S. Tanner September 9, "
A sketch of the Insolvent Laws of Penn. E. D. Ingraham—P H. Nicklin. Sept. 11, "
Travels in New England and New York; by Timothy Dwight S. T. D. &c. S't'r 14, "
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The Pronouncing Testament; by I. Alger, E. Lincoln & T. Edmands October 21, "
A Geographical description of the United States; by John Mellish October 22, "
A geographical description of the Whonke; by John Mellish October 22, "
A Map of Pennsylvania; by John Mellish October 22, "
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Report to the Secretary of War on Indian affairs; by Howe and Spalding Oct. 25, "
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The Western Navigator; by Eliakim Sittell October 29, "
Conversations on etimology and syntax; by Charles M. Ingersoll November 1, "
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The American practical Lunarian and Seaman's Guide; by T. Arnold November 27, "
Map of Ohio; by John Kilbourne November 27, "
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New Guide to health; by Samuel Thompson December 13, "
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A defence of the Trinitarian System in 24 sermons; by D. Harrowar December 25, "
Description and use of a Diagram of Navigation; by George Watson December 27, "
A compendium of the common law of Kentucky; by C. Humpreys, December 27, "
Astronomical, Botanical, Philosophical, Scriptural cards, and a cabinet of knowledge; by F. R. Lockwood December 30,

The Connecticut annual register and United States calendar; by S. Green	Jan'y 3, 1823.
The American coast pilot; by Edmund M Blunt	January 4,
The merchant and masters assistant; by Edmund M. Blunt	January 4,
Synopsis, of Latin Grammar; by Nicholas Donnelly	January 7,
Byerly's New American spelling book; by M'Carty and Davies	January 3,
Analytical Spelling Book; by John Franklin Jones	January 8,
Flute melodies; by William Williams	January 13,
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Reports of cases in the court of Chancery of New York; by W. Johnson	January 27,
Three sermons on the Jewish and Christian Religions; by R. Little, L. L. D.	J'y 27,
The Scolars' Guide to the History of the Bible; by Titus Strong	January 28,
A Geography for schools; by Luke Drury	January 30,
Chart of the constitutions of the United States; by Thomas H. Palmer	February 1,
Reports of cases argued and determined in the Supreme Court of Judicature; by William Johnson	February 12,
An introduction to Murray's English Grammar; by John Lynde	February 17,
Grammatical Exercises; by Allen Fuller	February 17,
The National Calendar, and annals of the United States; for 1823 volume 4, by Peter Force,	February 17,
Jahn's Biblical archacology, by Thomas C. Upham	February 20,
A grammar of Spanish Language, by William B. Fowle	February 28,
Scripture Lessons; by William B. Fowle	February 28,
A catechism of English Grammar; by William B. Fowle	February 28,
The practical reader in five books; by M. R. Bastlett	February 28,
A complete system of short hand writing; by Jonathan Dodge	March 4,
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A Gazeteer of the states of Illinois and Missouri; by Lewis C. Beck	March 14,
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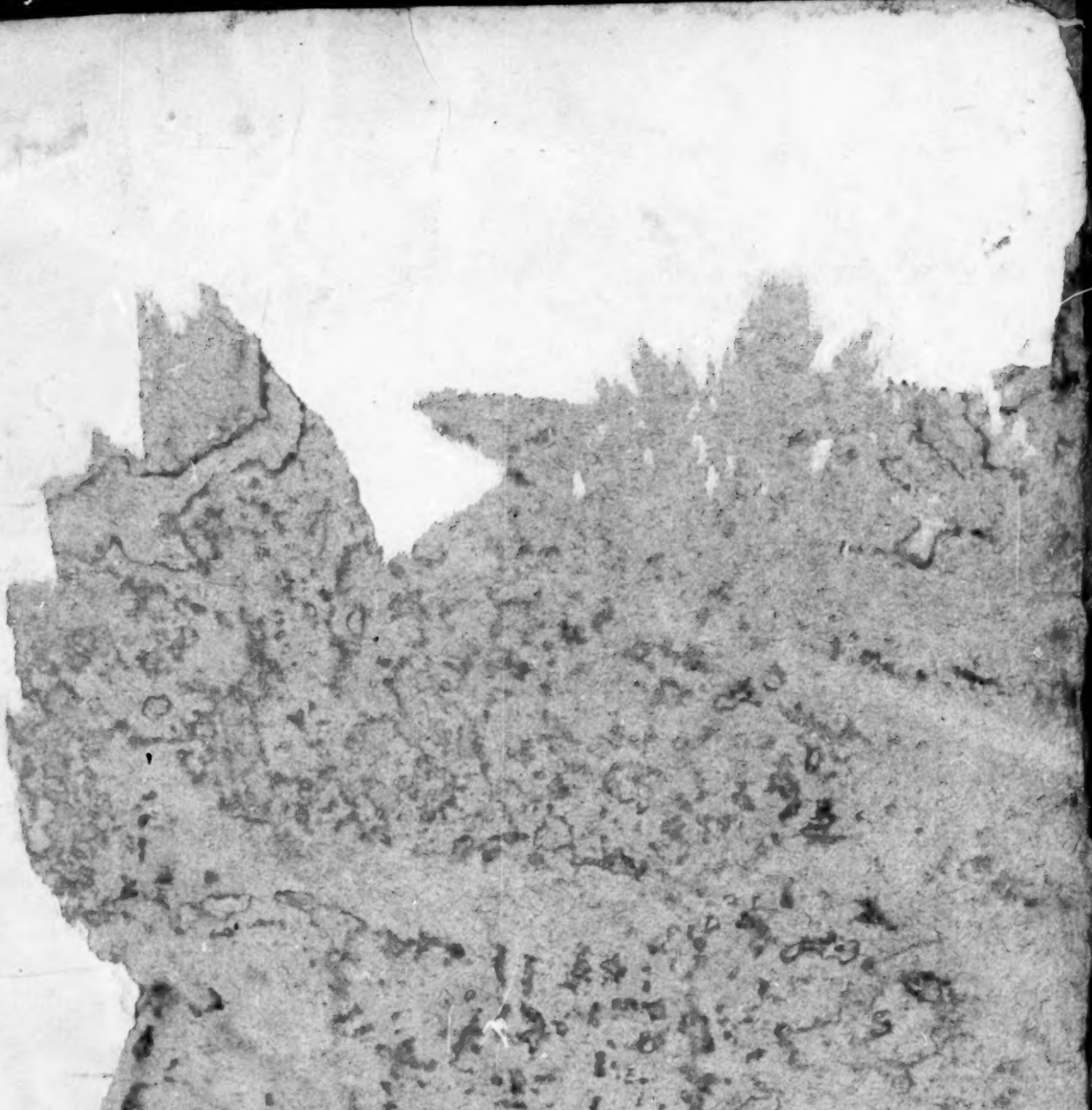
Revival hymns; by Nathaniel G. Ibbetson	March 17,
Questions adapted to Hedge's logick; by Simeon Ide	March 16,
Onomasia: or Philadelphia, with the signs of quantity; by James Ross	March 19,
The New Preceptor; by Samuel Wood and Sons	March 22,
Official letters of the Military and Naval Officers of the United States, during the war with Great Britian in the years 1812, 13, 14, and 15, by John Brannan	March 25,

NOTE.—The names of the persons depositing the books are here given, without always distinguishing who is the author.